

WEST Search History

DATE: Thursday, September 30, 2004

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	<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L14	L13 AND human	116
<input type="checkbox"/>	L13	Nogo	519
<input type="checkbox"/>	L12	L11 AND Nogo	12
<input type="checkbox"/>	L11	536/23.4,23.5.CCLS.	9950
<input type="checkbox"/>	L10	L9 AND Nogo	9
<input type="checkbox"/>	L9	530/300,350.CCLS.	17035
<input type="checkbox"/>	L8	L7 AND Nogo	13
<input type="checkbox"/>	L7	435/69.1,252.1,325.CCLS.	27404
<input type="checkbox"/>	L6	Chen.IN.	84958
<input type="checkbox"/>	L5	Chen-M.IN.	1676
<input type="checkbox"/>	L4	Chen-Maio.IN.	0
<input type="checkbox"/>	L3	Schwab.IN.	3541
<input type="checkbox"/>	L2	Schwab-M.IN.	133
<input type="checkbox"/>	L1	(Schwab-Martin.IN.)	17

END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 17 of 17 returned.

☐ 1. Document ID: US 20020112521 A1

Using default format because multiple data bases are involved.

L1: Entry 1 of 17

File: PGPB

Aug 22, 2002

PGPUB-DOCUMENT-NUMBER: 20020112521

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020112521 A1

TITLE: Method for working a workpiece

PUBLICATION-DATE: August 22, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kunz, Otto	Seedorf		CH	
<u>Schwab, Martin</u>	Kallnach		CH	

US-CL-CURRENT: 72/343

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 2. Document ID: US 6584822 B2

L1: Entry 2 of 17

File: USPT

Jul 1, 2003

US-PAT-NO: 6584822

DOCUMENT-IDENTIFIER: US 6584822 B2

TITLE: Method for working a workpiece

DATE-ISSUED: July 1, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kunz; Otto	CH-3267 Seedorf			CH
<u>Schwab; Martin</u>	CH-3283 Kallnach			CH

US-CL-CURRENT: 72/71

ABSTRACT:

The invention relates to a process for working a workpiece held between a counterholder and a guide by a clamping force by forming a profile, e.g. precision toothing, in a surface of the workpiece by means of a forming element, the forming element being guided toward the surface of the workpiece at an acute angle (w) to the

clamping force or with a rotary/thrust movement.

8 Claims, 3 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMIC	Draw Des
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☐ 3. Document ID: US 6327887 B1

L1: Entry 3 of 17

File: USPT

Dec 11, 2001

US-PAT-NO: 6327887
DOCUMENT-IDENTIFIER: US 6327887 B1

TITLE: Process for shaping a work piece

DATE-ISSUED: December 11, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kunz; Otto	Seedorf			CH
Schwab; Martin	Kallnach			CH

US-CL-CURRENT: 72/316; 72/325, 72/352, 72/452.9

ABSTRACT:

The invention relates to process for working a workpiece (1) held between a counterholder (4) and a guide (5, 5.2) by a clamping force (14.1, 14.2) by forming a profile (3, 3.1), e.g. precision toothing, in a surface (2) of the workpiece (1) by means of a forming element (8, 8.2), the forming element (8, 8.2) being guided toward the surface (2) of the workpiece (1) at an acute angle (w) to the clamping force (14.1, 14.2) or with a rotary/thrust movement.

5 Claims, 3 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMIC	Draw Des
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☐ 4. Document ID: US 4069522 A

L1: Entry 4 of 17

File: USPT

Jan 24, 1978

US-PAT-NO: 4069522
DOCUMENT-IDENTIFIER: US 4069522 A

TITLE: Baby commode

DATE-ISSUED: January 24, 1978

INVENTOR-INFORMATION:

file://C:\TEMP\0XZRQLQ8.htm

9/30/04

NAME	CITY	STATE	ZIP CODE	COUNTRY
Messmer; Heinz	Aurich			DT
Schwab; Martin	Effretikon			DT

US-CL-CURRENT: 4/483

ABSTRACT:

A commode for a child being a body formed by a central wall defining a pot and an outer wall spaced therefrom and including a repository attached or enclosed therein for toilet accessories.

17 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWC	Draw. Des.
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☐ 5. Document ID: US 3881888 A

L1: Entry 5 of 17

File: USPT

May 6, 1975

US-PAT-NO: 3881888

DOCUMENT-IDENTIFIER: US 3881888 A

TITLE: FIXTURE FOR HOLDING BLADES DURING GRINDING

DATE-ISSUED: May 6, 1975

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schwab; Martin	Effretikon			CH

US-CL-CURRENT: 451/367; 269/71, 269/78

ABSTRACT:

A fixture for positioning a sewing machine cutting element in a grinding machine. A horizontally disposed bolt or shaft is carried by a grinding machine attachment mounting. A clamping plate is rotatably and longitudinally positionable on the shaft at selected positions along the axis thereof. A second bolt or shaft extends from the clamping plate, at right angles to the first shaft and is securable at selected angular and longitudinal positions with respect to its own axis. The second bolt has mounted at its end a chuck adapted to secure the sewing machine cutting element. The clamping plate can thus be adjusted with respect to the first and second bolts so that the sewing machine blade can be held at selected positions with respect to the cutting device of the grinding machine.

9 Claims, 5 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWC	Draw. Des.
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☐ 6. Document ID: WO 3076843 A1

L1: Entry 6 of 17

File: EPAB

Sep 18, 2003

PUB-NO: WO003076843A1

DOCUMENT-IDENTIFIER: WO 3076843 A1

TITLE: ARTICULATED ARM ESPECIALLY FOR A DEVICE FOR OPTICALLY CAPTURING OBJECTS

PUBN-DATE: September 18, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
WOLF, MARTIN	AT
PFISTER, WILFRIED	AT
SCHWAB, MARTIN	DE

INT-CL (IPC): F16 M 11/06; H04 N 5/232

EUR-CL (EPC): F16M011/04; F16M011/06

ABSTRACT:

CHG DATE=20031129 STATUS=N>The invention relates to an articulated arm (1) for aligning a capturing device (2) for optically capturing an object arranged on a bearing surface (3). Said articulated arm, like as a conventional double-parallelogram arm, comprises a foot part (4), a head part (7), an articulated part (10) and two pairs of rods (5, 6, 8, 9) which connect the foot part (4) or the head part (7) to the articulated part (10). As opposed to prior art, the inventive articulated arm (1) comprises, in addition to a shaft (11) which is rotatably secured to the head part (7) and which mechanically co-operates with one of the rods (9) which is pivotably secured to the head part (7). As a result, the shaft rotates (11) in relation to the head part (7) when the rod (9) is pivoted.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Draw Des
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☐ 7. Document ID: GB 2379106 A

L1: Entry 7 of 17

File: EPAB

Feb 26, 2003

PUB-NO: GB002379106A

DOCUMENT-IDENTIFIER: GB 2379106 A

TITLE: Improvements in or relating to fast frequency hopping demodulators

PUBN-DATE: February 26, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
SCHWAB, MARTIN	DE
SMITH, CHRISTOPHER NIGEL	GB
DOMOKOS, JOHN	GB

INT-CL (IPC): H04 L 27/227; H03 L 7/06

EUR-CL (EPC): H04B001/713; H04L027/227

ABSTRACT:

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMMC	Draw Des
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☐ 8. Document ID: GB 2379105 A

L1: Entry 8 of 17

File: EPAB

Feb 26, 2003

PUB-NO: GB002379105A

DOCUMENT-IDENTIFIER: GB 2379105 A

TITLE: Improvements in or relating to fast frequency-hopping modulators and demodulators

PUBN-DATE: February 26, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
SCHWAB, MARTIN	DE
DOMOKOS, JOHN	GB
SMITH, CHRISTOPHER NIGEL	GB

INT-CL (IPC): H04 L 27/227; H03 C 3/09; H04 L 27/10; H04 L 27/12; H04 L 27/20
EUR-CL (EPC): H04B001/713; H04L027/227

ABSTRACT:

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMMC	Draw Des
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☐ 9. Document ID: WO 2081805 A2

L1: Entry 9 of 17

File: EPAB

Oct 17, 2002

PUB-NO: WO002081805A2

DOCUMENT-IDENTIFIER: WO 2081805 A2

TITLE: METHOD FOR OPERATING A PROGRAM-CONTROLLED HOUSEHOLD APPLIANCE

PUBN-DATE: October 17, 2002

INVENTOR-INFORMATION:

NAME	COUNTRY
PAUTZKE, GUNNAR	DE
BERGEMANN, HEINZ-JUERGEN	DE
SALEIN, MATTHIAS	DE
SCHWAB, MARTIN	DE

INT-CL (IPC): D06 F 39/00

EUR-CL (EPC): D06F039/00

ABSTRACT:

CHG DATE=20021203 STATUS=O>The invention relates to a household appliance whereby the selected operating language is simple to use. The programs which can be activated take into account the special characteristics of specific languages. The household appliance comprises a display unit (4) which displays all information in a simple language. The selected language, the selected programming of the household appliance, the selected additional functions in addition to error messages are shown on the display unit so that operational mistakes are basically prevented.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Des
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☐ 10. Document ID: DE 10032934 A1

L1: Entry 10 of 17

File: EPAB

Jan 24, 2002

PUB-NO: DE010032934A1

DOCUMENT-IDENTIFIER: DE 10032934 A1

TITLE: TITLE DATA NOT AVAILABLE

PUBN-DATE: January 24, 2002

INVENTOR-INFORMATION:

NAME

COUNTRY

DAUERER, JOERG

DE

SCHWAB, MARTIN

DE

INT-CL (IPC): H04 L 7/04; H04 Q 7/30

EUR-CL (EPC): H04B007/26

ABSTRACT:

CHG DATE=20020702 STATUS=N>A base station synchronisation system uses a to synchronise a micro (16) cell and macro (11) cell base station with over a frequency correction channel using a mobile phone chipset without needing a PCM line (13) to a rubidium oscillator.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Des
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☐ 11. Document ID: WO 195575 A1

L1: Entry 11 of 17

File: EPAB

Dec 13, 2001

PUB-NO: WO000195575A1

DOCUMENT-IDENTIFIER: WO 195575 A1

TITLE: METHOD FOR THE PREPARATION OF TIMESLOTS WITHIN A FRAME FOR THE TRANSMISSION OF INFORMATION

PUBN-DATE: December 13, 2001

INVENTOR-INFORMATION:

NAME

COUNTRY

FRANZ, WALTER

DE

SCHWAB, MARTIN
MALY, HORST

DE
DE

INT-CL (IPC): H04 L 12/56
EUR-CL (EPC): H04L012/56

ABSTRACT:

CHG DATE=20020202 STATUS=O>A system for the preparation of timeslots within a frame for the transmission of information in a technical system with mobile units and a central unit is disclosed. The frame comprises at least one timeslot, which is provided for the transmission of information from the mobile units to the central unit and in which several of the mobile units can register information for transmission. A collision of information from various mobile units in the same timeslot is recognised and after such a collision recognition the number of said timeslots is increased.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw. Des.
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☐ 12. Document ID: DE 10027595 A1

L1: Entry 12 of 17

File: EPAB

Dec 13, 2001

PUB-NO: DE010027595A1
DOCUMENT-IDENTIFIER: DE 10027595 A1
TITLE: TITLE DATA NOT AVAILABLE

PUBN-DATE: December 13, 2001

INVENTOR-INFORMATION:

NAME	COUNTRY
FRANZ, WALTER	DE
SCHWAB, MARTIN	DE
MALY, HORST	DE

INT-CL (IPC): G08 C 15/06; H04 L 12/52; G08 C 17/02; H04 B 7/212; B65 G 37/02

ABSTRACT:

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw. Des.
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☐ 13. Document ID: DE 19815264 A1

L1: Entry 13 of 17

File: EPAB

Oct 7, 1999

PUB-NO: DE019815264A1
DOCUMENT-IDENTIFIER: DE 19815264 A1
TITLE: Precision metal profile forming method

PUBN-DATE: October 7, 1999

INVENTOR-INFORMATION:

NAME

KUNZ, OTTO

SCHWAB, MARTIN

COUNTRY

CH

CH

INT-CL (IPC): B21 J 5/06; B21 K 1/76; B21 D 22/14

EUR-CL (EPC): B21J005/12; B21K001/30

ABSTRACT:

CHG DATE=20000202 STATUS=O>A workpiece (1) is clamped between jaws (4,5) and a shaping tool (8) is moved against the workpiece in a direction inclined at an angle of 80-100 deg. to the direction of the clamping force (14.1,14.2). The jaw section (4) has a tool holding recess (6) with a ramp (7) and a guide bore for a wedge (12) which acts against an inclined surface (11) on the shaping tool. Pressure exerted on the wedge causes the tool to move up the ramp in the required cutting direction.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	RMK	Draw Des.
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☐ 14. Document ID: DE 19823523 C1

L1: Entry 14 of 17

File: EPAB

Aug 19, 1999

PUB-NO: DE019823523C1

DOCUMENT-IDENTIFIER: DE 19823523 C1

TITLE: Base station testing method for radio communications system

PUBN-DATE: August 19, 1999

INVENTOR-INFORMATION:

NAME

HEINZ, HELMUT

KORTE, WERNER

SCHWAB, MARTIN

SOKAT, JOERG

COUNTRY

DE

DE

DE

DE

INT-CL (IPC): H04 B 17/00; H04 Q 7/34

EUR-CL (EPC): H04Q007/34; H04B017/00, H04B017/00

ABSTRACT:

CHG DATE=19991202 STATUS=O>The method involves sending at least one signal in a radio station (BS) according to a subscriber separation method of the radio communications system from a transmitter arrangement (SE) to an amplification arrangement (VE) where it is amplified. The amplified signal is supplied to a measurement arrangement (ME), in which at least one characteristic value (RXLEV, RXQUAL) is determined from the signal. The characteristic value is transmitted by the measurement arrangement according to the subscriber separation method of the radio communications system. The value is received in a reception arrangement (EE) of the radio station, and is evaluated in an evaluation arrangement (LC) with respect to the function of the radio station.

☐ 15. Document ID: WO 9929450 A1

L1: Entry 15 of 17

File: EPAB

Jun 17, 1999

PUB-NO: WO009929450A1

DOCUMENT-IDENTIFIER: WO 9929450 A1

TITLE: PROCESS FOR SHAPING A WORK PIECE

PUBN-DATE: June 17, 1999

INVENTOR-INFORMATION:

NAME

COUNTRY

KUNZ, OTTO

CH

SCHWAB, MARTIN

CH

INT-CL (IPC): B21 K 1/30; B21 J 5/12

EUR-CL (EPC): B21J005/12; B21K001/30

ABSTRACT:

CHG DATE=19990803 STATUS=O>The invention relates to a method for shaping a work piece (1) held between a counter holder (4, 4.1) and a guide (5, 5.1, 5.2) by a clamping force in which a profile section (3), for example, a precision teething is shaped in an area (2) of the work piece (1), whereby the shaping occurs at an angle to the clamping force (14.1, 14.2).

☐ 16. Document ID: DE 19754091 A1

L1: Entry 16 of 17

File: EPAB

Jun 17, 1999

PUB-NO: DE019754091A1

DOCUMENT-IDENTIFIER: DE 19754091 A1

TITLE: Work piece machining process for precision forming of teeth

PUBN-DATE: June 17, 1999

INVENTOR-INFORMATION:

NAME

COUNTRY

SCHWAB, MARTIN

CH

KUNZ, OTTO

CH

INT-CL (IPC): B21 J 5/12; B30 B 1/40; B21 K 1/76

EUR-CL (EPC): B21J005/12; B21K001/30

ABSTRACT:

CHG DATE=19991002 STATUS=O>The machining process for a work piece (1) involves the precision forming of e.g. teeth (3) in one of its surfaces (2). The surface is formed at an acute angle (w) to the surface of the work piece. A simulation (9) of the teeth

is made on the end face of a shaping element (8), which is brought up to the work piece surface at an acute angle. The shaping element may be offset in the vertical and to the side relative to the work piece surface.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Des
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☐ 17. Document ID: DE 19625334 A1

L1: Entry 17 of 17

File: EPAB

Jan 15, 1998

PUB-NO: DE019625334A1

DOCUMENT-IDENTIFIER: DE 19625334 A1

TITLE: Air cushion covering for a horse shoe

PUBN-DATE: January 15, 1998

INVENTOR-INFORMATION:

NAME

COUNTRY

SCHWAB, MARTIN

DE

INT-CL (IPC): A01 L 5/00; A01 L 7/02

EUR-CL (EPC): A01L005/00; A01L007/02

ABSTRACT:

CHG DATE=19990617 STATUS=O>An air cushion covering for a horse's hoof, to provide an elastic cover, comprises a horse shoe and an interchangeable tyre section. The tyre section can pref. be filled with air or nitrogen, and pref. has a U-shape which corresp. to the horse shoe, and an 'O' shaped cross-section. The tyre section can pref. be filled with a permanent elastic material, e.g. silicone.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Des
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☐ 1. Document ID: US 20040171123 A1

Using default format because multiple data bases are involved.

L8: Entry 1 of 13

File: PGPB

Sep 2, 2004

PGPUB-DOCUMENT-NUMBER: 20040171123

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040171123 A1

TITLE: ALBUMIN FUSION PROTEINS

PUBLICATION-DATE: September 2, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Rosen, Craig A.	Laytonsville	MD	US	
Haseltine, William A.	Washington	DC	US	

US-CL-CURRENT: [435/69.7](#); [424/192.1](#), [435/252.3](#), [435/325](#), [536/23.4](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 2. Document ID: US 20040166501 A1

L8: Entry 2 of 13

File: PGPB

Aug 26, 2004

PGPUB-DOCUMENT-NUMBER: 20040166501

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040166501 A1

TITLE: Receptors and membrane-associated proteins

PUBLICATION-DATE: August 26, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Azimzai, Yalda	Oakland	CA	US	
Yue, Henry	Sunnyvale	CA	US	
Ding, Li	Creve Coeur	MO	US	
Nguyen, Danniel B	San Jose	CA	US	
Gandhi, Ameena R	San Francisco	CA	US	
Burford, Neil	Durham	CT	US	
Thangavelu, Kavitha	Sunnyvale	CA	US	
Elliott, Vicki S	San Jose	CA	US	
Ramkumar, Jayalaxmi	Fremont	CA	US	

Yao, Monique G	Mountain View	CA	US
Lal, Preeti G	Santa Clara	CA	US
Tang, Y. Tom	San Jose	CA	US
Swarnakar, Anita	San Francisco	CA	US
Warren, Bridget A	San Marcos	CA	US
Chawla, Narinder K	Union City	CA	US
Policky, Jennifer L	San Jose	CA	US
Xu, Yuming	Mountain View	CA	US
Honchell, Cynthia D	San Carlos	CA	US
Au-Young, Janice K	Brisbane	CA	US
Baughn, Mariah R	Los Angeles	CA	US
Duggan, Brendan M	Sunnyvale	CA	US
Lu, Dyung Aina M	San Jose	CA	US
Gietzen, Kimberly J	San Jose	CA	US
Jackson, Jennifer L	Santa Cruz	CA	US
Raumann, Brigitte E	Chicago	IL	US
Lu, Yan	Mountain View	CA	US
Kareht, Stephanie K	Redwood City	CA	US
Tran, Uyen K	San Jose	CA	US
Richardson, Thomas W	Redwood City	CA	US
Emerling, Brooke M	Chicago	IL	US
Hafalia, April J A	Daly City	CA	US
Burrill, John D	Redwood City	CA	US
Marcus, Gregory A	San Carlos	CA	US
Zingler, Kurt A	San Francisco	CA	US
Kable, Amy E	Silver Springs	MD	US
Gorvad, Ann E	Bellingham	WA	US

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 435/7.2, 514/12, 530/350, 530/388.22, 536/23.5

ABSTRACT:

The invention provides human receptors and membrane-associated proteins (REMAP) and polynucleotides which identify and encode REMAP. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with aberrant expression of REMAP.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWAC	Draw Des
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☐ 3. Document ID: US 20040126793 A1

L8: Entry 3 of 13

File: PGPB

Jul 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040126793

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040126793 A1

TITLE: Lectin compositions and methods for modulating an immune response to an antigen

PUBLICATION-DATE: July 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Segal, Andrew H.	Boston	MA	US	
Young, Elihu	Sharon	MA	US	

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/419, 435/69.1, 530/370, 530/395, 536/23.5

ABSTRACT:

The present invention provides a fusion polypeptide which can bind to a cell surface binding moiety (e.g., a carbohydrate) and serve as a ligand for a cell surface polypeptide, as well as a vector comprising a nucleic acid encoding for such a fusion polypeptide, and a host cell comprising such nucleic acid. The present invention also provides a composition comprising an antigen bearing target and such a fusion polypeptide, as well as a composition comprising a virus or a cell and such a fusion polypeptide. The present invention further relates to a method of modulating an immune response in an animal using such compositions.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Des
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☐ 4. Document ID: US 20040121341 A1

L8: Entry 4 of 13

File: PGPB

Jun 24, 2004

PGPUB-DOCUMENT-NUMBER: 20040121341

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040121341 A1

TITLE: Inhibitors of myelin-associated glycoprotein (MAG) activity for regulating neural growth and regeneration

PUBLICATION-DATE: June 24, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Filbin, Marie T.	New York	NY	US	
Domeniconi, Marco	New York	NY	US	
Cao, Zixuan	Elmhurst	NY	US	

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 530/395, 536/23.5

ABSTRACT:

The present invention relates generally to products, compositions and methods useful for promoting neural repair and regeneration. The products and compositions of this invention include myelin-associated glycoprotein (MAG) derivatives that are inhibitors of endogenous MAG (e.g., mutant MAG proteins) and Nogo Receptor (NgR) binding inhibitors that are peptides derived from MAG, Nogo and OMgp that can bind to NgR and block NgR signaling. Peptides that can bind and activate NgR signaling are also provided. Inhibitory MAG derivatives and NgR binding inhibitors are useful for blocking the inhibition of neural regeneration mediated by proteins such as MAG, Nogo and/or OMgp in the nervous system. These inhibitors are also useful for treating

neural degeneration associated with injuries, disorders or diseases.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 5. Document ID: US 20040106125 A1

L8: Entry 5 of 13

File: PGPB

Jun 3, 2004

PGPUB-DOCUMENT-NUMBER: 20040106125

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040106125 A1

TITLE: Neurotransmission-associated proteins

PUBLICATION-DATE: June 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Duggan, Brendan M	Sunnyvale	CA	US	
Honchell, Cynthia D	San Carlos	CA	US	
Ison, Craig H	San Jose	CA	US	
Thangavelu, Kavitha	Sunnyvale	CA	US	
Lu, Dyung Aina M	San Jose	CA	US	
Baughn, Mariah R	Los Angeles	CA	US	
Lal, Preeti G	Santa Clara	CA	US	
Yue, Henry	Sunnyvale	CA	US	
Tang, Y Tom	San Jose	CA	US	
Warren, Bridget A	San Marcos	CA	US	
Lee, Ernestine A	Castro Valley	CA	US	
Griffin, Jennifer A	Fremont	CA	US	
Forsythe, Ian J	Edmonton	CA	CA	
Chawla, Narinder K	Union City	CA	US	
Jiang, Xin	Saratoga	CA	US	
Jackson, Alan A	Los Gatos		US	

US-CL-CURRENT: 435/6; 424/143.1, 435/320.1, 435/325, 435/69.1, 530/350, 530/388.22

ABSTRACT:

The invention provides human neurotransmission-associated proteins (NTRAN) and polynucleotides which identify and encode NTRAN. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with aberrant expression of NTRAN.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 6. Document ID: US 20040097707 A1

L8: Entry 6 of 13

File: PGPB

May 20, 2004

PGPUB-DOCUMENT-NUMBER: 20040097707
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040097707 A1

TITLE: Receptors and membrane-associated proteins

PUBLICATION-DATE: May 20, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lee, Ernestine A.	Albany	CA	US	
Chawla, Narinder K.	San Leandro	CA	US	
Baughn, Mariah R.	San Leandro	CA	US	
Azimzai, Yalda	Castro Valley	CA	US	
Tang, Y. Tom	San Jose	CA	US	
Yue, Henry	Sunnyvale	CA	US	
Thangavelu, Kavitha	Mountain View	CA	US	
Xu, Yuming	Mountain View	CA	US	
Arvizu, Chandra S.	Menlo Park	CA	US	
Warren, Bridget A.	Cupertino	CA	US	
Yao, Monique G.	Carmel	IN	US	
Au-Young, Janice K.	Brisbane	CA	US	
Hafalia, April J.A.	Santa Clara	CA	US	
Elliott, Vicki S.	San Jose	CA	US	
Kallick, Deborah A.	Menlo Park	CA	US	
Gandhi, Ameena r.	San Francisco	CA	US	
Richardson, Thomas W.	Redwood City	CA	US	
Khan, Farrah A.	Des Plaines	IL	US	
Lu, Yan	Palo Alto	CA	US	
Swarnakar, Anita	San Francisco	CA	US	
Ramkumar, Jayalaxmi	Fremont	CA	US	
Nguyen, Danniell B.	San Jose	CA	US	
Graul, Richard C.	San Francisco	CA	US	
Lu, Dyung Aina M.	San Jose	CA	US	

US-CL-CURRENT: 530/350; 435/320.1, 435/325, 435/6, 435/69.1, 530/388.22, 536/23.5

ABSTRACT:

The invention provides human receptors and membrane-associated proteins (REMAP) and polynucleotides which identify and encode REMAP. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with aberrant expression of REMAP.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 7. Document ID: US 20040023334 A1

L8: Entry 7 of 13

File: PGPB

Feb 5, 2004

PGPUB-DOCUMENT-NUMBER: 20040023334

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.9&ref=8&dbname=PGPB,USPT,USO...> 9/30/04

PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040023334 A1

TITLE: Modified transferrin fusion proteins

PUBLICATION-DATE: February 5, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Prior, Christopher P.	Philadelphia	PA	US	

US-CL-CURRENT: 435/69.7; 435/320.1, 435/325, 530/380, 530/400, 536/23.5

ABSTRACT:

Modified fusion proteins of transferrin and therapeutic proteins or peptides with increased serum half-life or serum stability are disclosed. Preferred fusion proteins include those modified so that the transferrin moiety exhibits no or reduced glycosylation, binding to iron and/or binding to the transferrin receptor.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	MMMC	Draw Des
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☐ 8. Document ID: US 20040018555 A1

L8: Entry 8 of 13

File: PGPB

Jan 29, 2004

PGPUB-DOCUMENT-NUMBER: 20040018555
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040018555 A1

TITLE: Novel antibodies that bind to antigenic polypeptides, nucleic acids encoding the antigens, and methods of use

PUBLICATION-DATE: January 29, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Anderson, David W.	Branford	CT	US	
Zerhusen, Bryan D.	Branford	CT	US	
Li, Li	Branford	CT	US	
Zhong, Mei	Branford	CT	US	
Casman, Stacie J.	North Haven	CT	US	
Gerlach, Valerie	Branford	CT	US	
Shimkets, Richard A.	Guilford	CT	US	
Gorman, Linda	Branford	CT	US	
Pena, Carol E. A.	Guilford	CT	US	
Kekuda, Ramesh	Norwalk	CT	US	
Patturajan, Meera	Branford	CT	US	
Spytek, Kimberly A.	New Haven	CT	US	
Leite, Mario W.	Milford	CT	US	
Rastelli, Luca	Guilford	CT	US	
MacDougall, John R.	Hamden	CT	US	

Taupier, Raymond J. JR.	East Haven	CT	US
Guo, Xiaojia Sasha	Branford	CT	US
Miller, Charles E.	Guilford	CT	US
Shenoy, Suresh G.	Branford	CT	US
Hjalt, Tord	Lomna	CT	US
Voss, Edward Z.	Wallingford	CT	US
Boldog, Ferenc L.	North Haven	CT	US
Malyankar, Uriel M.	Branford	CT	US
Padigar, Muralidhara	Branford	CT	US
Ji, Weizhen	Branford	CT	US
Smithson, Glennnda	Guilford	CT	US
Edinger, Shlomit R.	New Haven	CT	US
Millet, Isabelle	Milford	CT	US
Ellerman, Karen	Branford	CT	US

US-CL-CURRENT: 435/7.1; 424/130.1, 435/320.1, 435/326, 435/69.1, 530/388.1, 536/23.53

ABSTRACT:

Disclosed herein are nucleic acid sequences that encode polypeptides. Also disclosed are antibodies, which immunospecifically-bind to the polypeptide, as well as derivatives, variants, mutants, or fragments of the aforementioned polypeptide, polynucleotide, or antibody. The invention further discloses therapeutic, diagnostic and research methods for diagnosis, treatment, and prevention of disorders involving any one of these novel human nucleic acids, polypeptides, or antibodies, or fragments thereof.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 9. Document ID: US 20030186267 A1

L8: Entry 9 of 13

File: PGPB

Oct 2, 2003

PGPUB-DOCUMENT-NUMBER: 20030186267

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030186267 A1

TITLE: Novel human leucine-rich repeat domain containing protein, HLLRCR-1

PUBLICATION-DATE: October 2, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Feder, John N.	Belle Mead	NJ	US	
Ramanathan, Chandra S.	Wallingford	CT	US	
Mintier, Gabriel	Hightstown	NJ	US	

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 514/12, 530/350, 536/23.5

ABSTRACT:

The present invention provides novel polynucleotides encoding HLLRCR-1 polypeptides, fragments and homologues thereof. Also provided are vectors, host cells, antibodies,

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.9&ref=8&dbname=PGPB,USPT,USO...> 9/30/04

and recombinant and synthetic methods for producing said polypeptides. The invention further relates to diagnostic and therapeutic methods for applying these novel HLLRCR-1 polypeptides to the diagnosis, treatment, and/or prevention of various diseases and/or disorders related to these polypeptides, particularly nervous system diseases and/or disorders. The invention further relates to screening methods for identifying agonists and antagonists of the polynucleotides and polypeptides of the present invention.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw/Des
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☐ 10. Document ID: US 20030124704 A1

L8: Entry 10 of 13

File: PGPB

Jul 3, 2003

PGPUB-DOCUMENT-NUMBER: 20030124704
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030124704 A1

TITLE: Nogo receptor homologs

PUBLICATION-DATE: July 3, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Strittmatter, Stephen M.	Guilford	CT	US	
Cate, Richard L.	Cohasset	MA	US	
Sah, Dinah W. Y.	Boston	MA	US	

US-CL-CURRENT: 435/226; 424/146.1, 435/320.1, 435/325, 435/69.1, 530/388.26, 536/23.2

ABSTRACT:

The invention relates generally to genes that encode proteins that inhibit axonal growth. The invention relates specifically to genes encoding NgR protein homologs in humans and mice. The invention also includes compositions and methods for modulating the expression and activity of Nogo and the NgR proteins. Specifically, the invention includes peptides, proteins and antibodies that block Nogo-mediated inhibition of axonal extension. The compositions and methods of the invention are useful in the treatment of cranial or cerebral trauma, spinal cord injury, stroke or a demyelinating disease.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw/Des
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☐ 11. Document ID: US 20020077295 A1

L8: Entry 11 of 13

File: PGPB

Jun 20, 2002

PGPUB-DOCUMENT-NUMBER: 20020077295
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020077295 A1

TITLE: Nogo receptor-mediated blockade of axonal growth

PUBLICATION-DATE: June 20, 2002

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.9&ref=8&dbname=PGPB,USPT,USO...> 9/30/04

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Strittmatter, Stephen M.	Clinton	CT	US	

US-CL-CURRENT: 514/12; 435/183, 435/320.1, 435/325, 536/23.2

ABSTRACT:

Disclosed are NgR proteins and biologically active Nogo (ligand) protein fragments. Also disclosed are compositions and methods for modulating the expression or activity of the Nogo and NgR protein. Also disclosed are peptides which block Nogo-mediated inhibition of axonal extension. The compositions and methods of the invention are useful in the treatment of cranial or cerebral trauma, spinal cord injury, stroke or a demyelinating disease.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Des
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☐ 12. Document ID: US 20020012965 A1

L8: Entry 12 of 13

File: PGPB

Jan 31, 2002

PGPUB-DOCUMENT-NUMBER: 20020012965

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020012965 A1

TITLE: Nogo receptor-mediated blockade of axonal growth

PUBLICATION-DATE: January 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Strittmatter, Stephen M.	Clinton	CT	US	

US-CL-CURRENT: 435/69.1; 435/325, 435/4, 435/7.21, 530/350, 530/388.22, 536/23.5

ABSTRACT:

Disclosed are Nogo receptor proteins and biologically active Nogo (ligand) protein fragments. Also disclosed are compositions and methods for modulating the expression or activity of the Nogo and Nogo receptor protein. Also disclosed are peptides which block Nogo-mediated inhibition of axonal extension. The compositions and methods of the invention are useful in the treatment of cranial or cerebral trauma, spinal cord injury, stroke or a demyelinating disease.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Des
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☐ 13. Document ID: US 6475753 B1

L8: Entry 13 of 13

File: USPT

Nov 5, 2002

US-PAT-NO: 6475753

DOCUMENT-IDENTIFIER: US 6475753 B1

TITLE: 94 Human Secreted Proteins

DATE-ISSUED: November 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruben; Steven M.	Olney	MD		
Ni; Jian	Rockville	MD		
Rosen; Craig A.	Laytonsville	MD		
Wei; Ying-Fei	Berkeley	CA		
Young; Paul	Gaithersburg	MD		
Florence; Kimberly	Rockville	MD		
Soppet; Daniel R.	Centreville	VA		
Brewer; Laurie A.	St. Paul	MN		
Endress; Gregory A.	Potomac	MD		
Carter; Kenneth C.	Potomac	MD		
Mucenski; Michael	Cincinnati	OH		
Ebner; Reinhard	Gaithersburg	MD		
Lafleur; David W.	Washington	DC		
Olsen; Henrik	Gaithersburg	MD		
Shi; Yanggu	Gaithersburg	MD		
Moore; Paul A.	Germantown	MD		
Komatsoulis; George	Silver Spring	MD		

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 435/325, 435/471, 435/69.4, 435/71.1, 530/350, 536/23.5

ABSTRACT:

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human secreted proteins.

37 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Examiner	Supervisor	Claims	RMCD	Draw Des
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Terms	Documents
L7 AND Nogo	13

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☐ 1. Document ID: US 20040166501 A1

Using default format because multiple data bases are involved.

L10: Entry 1 of 9

File: PGPB

Aug 26, 2004

PGPUB-DOCUMENT-NUMBER: 20040166501

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040166501 A1

TITLE: Receptors and membrane-associated proteins

PUBLICATION-DATE: August 26, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Azimzai, Yalda	Oakland	CA	US	
Yue, Henry	Sunnyvale	CA	US	
Ding, Li	Creve Coeur	MO	US	
Nguyen, Dannel B	San Jose	CA	US	
Gandhi, Ameena R	San Francisco	CA	US	
Burford, Neil	Durham	CT	US	
Thangavelu, Kavitha	Sunnyvale	CA	US	
Elliott, Vicki S	San Jose	CA	US	
Ramkumar, Jayalaxmi	Fremont	CA	US	
Yao, Monique G	Mountain View	CA	US	
Lal, Preeti G	Santa Clara	CA	US	
Tang, Y. Tom	San Jose	CA	US	
Swarnakar, Anita	San Francisco	CA	US	
Warren, Bridget A	San Marcos	CA	US	
Chawla, Narinder K	Union City	CA	US	
Policky, Jennifer L	San Jose	CA	US	
Xu, Yuming	Mountain View	CA	US	
Honchell, Cynthia D	San Carlos	CA	US	
Au-Young, Janice K	Brisbane	CA	US	
Baughn, Mariah R	Los Angeles	CA	US	
Duggan, Brendan M	Sunnyvale	CA	US	
Lu, Dyung Aina M	San Jose	CA	US	
Gietzen, Kimberly J	San Jose	CA	US	
Jackson, Jennifer L	Santa Cruz	CA	US	
Raumann, Brigitte E	Chicago	IL	US	
Lu, Yan	Mountain View	CA	US	
Kareht, Stephanie K	Redwood City	CA	US	
Tran, Uyen K	San Jose	CA	US	
Richardson, Thomas W	Redwood City	CA	US	

Emerling, Brooke M	Chicago	IL	US
Hafalia, April J A	Daly City	CA	US
Burrill, John D	Redwood City	CA	US
Marcus, Gregory A	San Carlos	CA	US
Zingler, Kurt A	San Francisco	CA	US
Kable, Amy E	Silver Springs	MD	US
Gorvad, Ann E	Bellingham	WA	US

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 435/7.2, 514/12, 530/350,
530/388.22, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 2. Document ID: US 20040151739 A1

L10: Entry 2 of 9

File: PGPB

Aug 5, 2004

PGPUB-DOCUMENT-NUMBER: 20040151739
 PGPUB-FILING-TYPE: new
 DOCUMENT-IDENTIFIER: US 20040151739 A1

TITLE: Use of a composition for the stimulation of nerve growth, the inhibition of scar tissue formation, the reduction of secondary damage and/or the accumulation of macrophages

PUBLICATION-DATE: August 5, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Monnier, Philippe P.	Tubingen		DE	
Mueller, Bernhard K.	Tubingen		DE	
Schwab, Jan	Tubingen		DE	

US-CL-CURRENT: 424/239.1; 514/12, 530/350

ABSTRACT:

The invention relates to the use of a composition, comprising a fusion protein and at least one transporter for the in-vivo inhibition of scar tissue formation, the in-vivo reduction of secondary damage and/or the in-vivo accumulation of macrophages. The fusion protein contains at least one binding domain for the transporter and at least one modulation domain for the covalent modification of small GTP-binding proteins. The transporter permits the uptake of the fusion protein in a target cell.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 3. Document ID: US 20040106125 A1

L10: Entry 3 of 9

File: PGPB

Jun 3, 2004

PGPUB-DOCUMENT-NUMBER: 20040106125
 PGPUB-FILING-TYPE: new
 DOCUMENT-IDENTIFIER: US 20040106125 A1

TITLE: Neurotransmission-associated proteins

PUBLICATION-DATE: June 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Duggan, Brendan M	Sunnyvale	CA	US	
Honchell, Cynthia D	San Carlos	CA	US	
Ison, Craig H	San Jose	CA	US	
Thangavelu, Kavitha	Sunnyvale	CA	US	
Lu, Dyung Aina M	San Jose	CA	US	
Baughn, Mariah R	Los Angeles	CA	US	
Lal, Preeti G	Santa Clara	CA	US	
Yue, Henry	Sunnyvale	CA	US	
Tang, Y Tom	San Jose	CA	US	
Warren, Bridget A	San Marcos	CA	US	
Lee, Ernestine A	Castro Valley	CA	US	
Griffin, Jennifer A	Fremont	CA	US	
Forsythe, Ian J	Edmonton	CA	CA	
Chawla, Narinder K	Union City	CA	US	
Jiang, Xin	Saratoga	CA	US	
Jackson, Alan A	Los Gatos		US	

US-CL-CURRENT: 435/6, 424/143.1, 435/320.1, 435/325, 435/69.1, 530/350, 530/388.22

ABSTRACT:

The invention provides human neurotransmission-associated proteins (NTRAN) and polynucleotides which identify and encode NTRAN. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with aberrant expression of NTRAN.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 4. Document ID: US 20040097707 A1

L10: Entry 4 of 9

File: PGPB

May 20, 2004

PGPUB-DOCUMENT-NUMBER: 20040097707

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040097707 A1

TITLE: Receptors and membrane-associated proteins

PUBLICATION-DATE: May 20, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lee, Ernestine A.	Albany	CA	US	
Chawla, Narinder K.	San Leandro	CA	US	
Baughn, Mariah R.	San Leandro	CA	US	

Azimzai, Yalda	Castro Valley	CA	US
Tang, Y. Tom	San Jose	CA	US
Yue, Henry	Sunnyvale	CA	US
Thangavelu, Kavitha	Mountain View	CA	US
Xu, Yuming	Mountain View	CA	US
Arvizu, Chandra S.	Menlo Park	CA	US
Warren, Bridget A.	Cupertino	CA	US
Yao, Monique G.	Carmel	IN	US
Au-Young, Janice K.	Brisbane	CA	US
Hafalia, April J.A.	Santa Clara	CA	US
Elliott, Vicki S.	San Jose	CA	US
Kallick, Deborah A.	Menlo Park	CA	US
Gandhi, Ameena r.	San Francisco	CA	US
Richardson, Thomas W.	Redwood City	CA	US
Khan, Farrah A.	Des Plaines	IL	US
Lu, Yan	Palo Alto	CA	US
Swarnakar, Anita	San Francisco	CA	US
Ramkumar, Jayalaxmi	Fremont	CA	US
Nguyen, Dannel B.	San Jose	CA	US
Graul, Richard C.	San Francisco	CA	US
Lu, Dyung Aina M.	San Jose	CA	US

US-CL-CURRENT: 530/350; 435/320.1, 435/325, 435/6, 435/69.1, 530/388.22, 536/23.5

ABSTRACT:

The invention provides human receptors and membrane-associated proteins (REMAP) and polynucleotides which identify and encode REMAP. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with aberrant expression of REMAP.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Des
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☐ 5. Document ID: US 20040029790 A1

L10: Entry 5 of 9

File: PGPB

Feb 12, 2004

PGPUB-DOCUMENT-NUMBER: 20040029790

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040029790 A1

TITLE: Novel human proteins, polynucleotides encoding them and methods of using the same

PUBLICATION-DATE: February 12, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Patturajan, Meera	Branford	CT	US	
Gerlach, Valerie	Branford	CT	US	
Anderson, David W.	Branford	CT	US	

Taupier, Raymond J. JR.	East Haven	CT	US
Zerhusen, Bryan D.	Branford	CT	US
Guo, Xiaojia Sasha	Branford	CT	US
Casman, Stacie J.	North Haven	CT	US
Hjalt, Tord	Lomna	CT	SE
Miller, Charles E.	Guilford	CT	US
Kekuda, Ramesh	Norwalk	CT	US
Shimkets, Richard A.	Guilford	CT	US
Malyankar, Uriel M.	Branford	CT	US
Zhong, Mei	Branford	CT	US
Padigar, Muralidhara	Branford	CT	US
Li, Li	Branford	CT	US
Shenoy, Suresh G.	Branford	CT	US
Gorman, Linda	Branford	CT	US
Edinger, Shlomit R.	New Haven		US

US-CL-CURRENT: 514/12; 435/7.1, 530/350

ABSTRACT:

Disclosed herein are nucleic acid sequences that encode novel polypeptides. Also disclosed are polypeptides encoded by these nucleic acid sequences, and antibodies that immunospecifically bind to the polypeptide, as well as derivatives, variants, mutants, or fragments of the novel polypeptide, polynucleotide, or antibody specific to the polypeptide. Vectors, host cells, antibodies and recombinant methods for producing the polypeptides and polynucleotides, as well as methods for using same are also included. The invention further discloses therapeutic, diagnostic and research methods for diagnosis, treatment, and prevention of disorders involving any one of these novel human nucleic acids and proteins.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. Des.
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☐ 6. Document ID: US 20030186267 A1

L10: Entry 6 of 9

File: PGPB

Oct 2, 2003

PGPUB-DOCUMENT-NUMBER: 20030186267

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030186267 A1

TITLE: Novel human leucine-rich repeat domain containing protein, HLLRCR-1

PUBLICATION-DATE: October 2, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Feder, John N.	Belle Mead	NJ	US	
Ramanathan, Chandra S.	Wallingford	CT	US	
Mintier, Gabriel	Hightstown	NJ	US	

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 514/12, 530/350, 536/23.5

ABSTRACT:

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.11&ref=10&dbname=PGPB,USPT,U...> 9/30/04

The present invention provides novel polynucleotides encoding HLLRCR-1 polypeptides, fragments and homologues thereof. Also provided are vectors, host cells, antibodies, and recombinant and synthetic methods for producing said polypeptides. The invention further relates to diagnostic and therapeutic methods for applying these novel HLLRCR-1 polypeptides to the diagnosis, treatment, and/or prevention of various diseases and/or disorders related to these polypeptides, particularly nervous system diseases and/or disorders. The invention further relates to screening methods for identifying agonists and antagonists of the polynucleotides and polypeptides of the present invention.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 7. Document ID: US 20030166711 A1

L10: Entry 7 of 9

File: PGPB

Sep 4, 2003

PGPUB-DOCUMENT-NUMBER: 20030166711

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030166711 A1

TITLE: Nerve regeneration promoters containing semaphorin inhibitor as the active ingredient

PUBLICATION-DATE: September 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kimura, Toru	Shiga		JP	
Kikuchi, Kaoru	Hyogo		JP	
Kumagai, Kazuo	Hyogo		JP	
Hosotani, Nobuo	Hyogo		JP	
Kishino, Akiyoshi	Osaka		JP	

US-CL-CURRENT: 514/455; 435/125, 435/254.5, 530/350, 549/392

ABSTRACT:

To provide a semaphorin inhibitor; a peripheral or central nerve regeneration promoter which contains said semaphorin inhibitor as an active ingredient; and a preventive or remedy for a neuropathic disease and a neurodegenerative disease containing said nerve regeneration promoter, or the like.

A low-molecular weight compound, which acts at a concentration of 10 .mu.g/ml or below to inhibit the growth cone collapse activity of semaphorin such as semaphorin 3A, semaphorin 6C or the like and/or the nerve outgrowth inhibitory activity of semaphorin in a collagen gel and which does not substantially affect cell proliferation, is obtained from the culture of strain SPF-3059 belonging to the genus *Penicillium*. The low-molecular weight compound with the semaphorin inhibitory activity thus obtained exhibits the in vivo nerve-regeneration promoting action.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 8. Document ID: US 20020012965 A1

PGPUB-DOCUMENT-NUMBER: 20020012965
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020012965 A1

TITLE: Nogo receptor-mediated blockade of axonal growth

PUBLICATION-DATE: January 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Strittmatter, Stephen M.	Clinton	CT	US	

US-CL-CURRENT: 435/69.1; 435/325, 435/4, 435/7.21, 530/350, 530/388.22, 536/23.5

ABSTRACT:

Disclosed are Nogo receptor proteins and biologically active Nogo (ligand) protein fragments. Also disclosed are compositions and methods for modulating the expression or activity of the Nogo and Nogo receptor protein. Also disclosed are peptides which block Nogo-mediated inhibition of axonal extension. The compositions and methods of the invention are useful in the treatment of cranial or cerebral trauma, spinal cord injury, stroke or a demyelinating disease.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawn Des.
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☐ 9. Document ID: US 6475753 B1

L10: Entry 9 of 9

File: USPT

Nov 5, 2002

US-PAT-NO: 6475753
DOCUMENT-IDENTIFIER: US 6475753 B1

TITLE: 94 Human Secreted Proteins

DATE-ISSUED: November 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruben; Steven M.	Olney	MD		
Ni; Jian	Rockville	MD		
Rosen; Craig A.	Laytonsville	MD		
Wei; Ying-Fei	Berkeley	CA		
Young; Paul	Gaithersburg	MD		
Florence; Kimberly	Rockville	MD		
Soppet; Daniel R.	Centreville	VA		
Brewer; Laurie A.	St. Paul	MN		
Endress; Gregory A.	Potomac	MD		
Carter; Kenneth C.	Potomac	MD		
Mucenski; Michael	Cincinnati	OH		
Ebner; Reinhard	Gaithersburg	MD		
Lafleur; David W.	Washington	DC		

Olsen; Henrik	Gaithersburg	MD
Shi; Yanggu	Gaithersburg	MD
Moore; Paul A.	Germantown	MD
Komatsoulis; George	Silver Spring	MD

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 435/325, 435/471, 435/69.4, 435/71.1, 530/350, 536/23.5

ABSTRACT:

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human secreted proteins.

37 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Draw. Refs	Claims	KWIC	Draw. Desc
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☐ 1. Document ID: US 20040171123 A1

Using default format because multiple data bases are involved.

L12: Entry 1 of 12

File: PGPB

Sep 2, 2004

PGPUB-DOCUMENT-NUMBER: 20040171123

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040171123 A1

TITLE: ALBUMIN FUSION PROTEINS

PUBLICATION-DATE: September 2, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Rosen, Craig A.	Laytonsville	MD	US	
Haseltine, William A.	Washington	DC	US	

US-CL-CURRENT: [435/69.7](#); [424/192.1](#), [435/252.3](#), [435/325](#), [536/23.4](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RWD	Draw Desc
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☐ 2. Document ID: US 20040166501 A1

L12: Entry 2 of 12

File: PGPB

Aug 26, 2004

PGPUB-DOCUMENT-NUMBER: 20040166501

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040166501 A1

TITLE: Receptors and membrane-associated proteins

PUBLICATION-DATE: August 26, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Azimzai, Yalda	Oakland	CA	US	
Yue, Henry	Sunnyvale	CA	US	
Ding, Li	Creve Coeur	MO	US	
Nguyen, Danniell B	San Jose	CA	US	
Gandhi, Ameena R	San Francisco	CA	US	
Burford, Neil	Durham	CT	US	
Thangavelu, Kavitha	Sunnyvale	CA	US	
Elliott, Vicki S	San Jose	CA	US	
Ramkumar, Jayalaxmi	Fremont	CA	US	

Yao, Monique G	Mountain View	CA	US
Lal, Preeti G	Santa Clara	CA	US
Tang, Y. Tom	San Jose	CA	US
Swarnakar, Anita	San Francisco	CA	US
Warren, Bridget A	San Marcos	CA	US
Chawla, Narinder K	Union City	CA	US
Policky, Jennifer L	San Jose	CA	US
Xu, Yuming	Mountain View	CA	US
Honchell, Cynthia D	San Carlos	CA	US
Au-Young, Janice K	Brisbane	CA	US
Baughn, Mariah R	Los Angeles	CA	US
Duggan, Brendan M	Sunnyvale	CA	US
Lu, Dyung Aina M	San Jose	CA	US
Gietzen, Kimberly J	San Jose	CA	US
Jackson, Jennifer L	Santa Cruz	CA	US
Raumann, Brigitte E	Chicago	IL	US
Lu, Yan	Mountain View	CA	US
Kareht, Stephanie K	Redwood City	CA	US
Tran, Uyen K	San Jose	CA	US
Richardson, Thomas W	Redwood City	CA	US
Emerling, Brooke M	Chicago	IL	US
Hafalia, April J A	Daly City	CA	US
Burrill, John D	Redwood City	CA	US
Marcus, Gregory A	San Carlos	CA	US
Zingler, Kurt A	San Francisco	CA	US
Kable, Amy E	Silver Springs	MD	US
Gorvad, Ann E	Bellingham	WA	US

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 435/7.2, 514/12, 530/350, 530/388.22, 536/23.5

ABSTRACT:

The invention provides human receptors and membrane-associated proteins (REMAP) and polynucleotides which identify and encode REMAP. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with aberrant expression of REMAP.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. Des.
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☐ 3. Document ID: US 20040126793 A1

L12: Entry 3 of 12

File: PGPB

Jul 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040126793

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040126793 A1

TITLE: Lectin compositions and methods for modulating an immune response to an antigen

PUBLICATION-DATE: July 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Segal, Andrew H.	Boston	MA	US	
Young, Elihu	Sharon	MA	US	

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/419, 435/69.1, 530/370, 530/395, 536/23.5

ABSTRACT:

The present invention provides a fusion polypeptide which can bind to a cell surface binding moiety (e.g., a carbohydrate) and serve as a ligand for a cell surface polypeptide, as well as a vector comprising a nucleic acid encoding for such a fusion polypeptide, and a host cell comprising such nucleic acid. The present invention also provides a composition comprising an antigen bearing target and such a fusion polypeptide, as well as a composition comprising a virus or a cell and such a fusion polypeptide. The present invention further relates to a method of modulating an immune response in an animal using such compositions.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 4. Document ID: US 20040121341 A1

L12: Entry 4 of 12

File: PGPB

Jun 24, 2004

PGPUB-DOCUMENT-NUMBER: 20040121341

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040121341 A1

TITLE: Inhibitors of myelin-associated glycoprotein (MAG) activity for regulating neural growth and regeneration

PUBLICATION-DATE: June 24, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Filbin, Marie T.	New York	NY	US	
Domeniconi, Marco	New York	NY	US	
Cao, Zixuan	Elmhurst	NY	US	

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 530/395, 536/23.5

ABSTRACT:

The present invention relates generally to products, compositions and methods useful for promoting neural repair and regeneration. The products and compositions of this invention include myelin-associated glycoprotein (MAG) derivatives that are inhibitors of endogenous MAG (e.g., mutant MAG proteins) and Nogo Receptor (NgR) binding inhibitors that are peptides derived from MAG, Nogo and OMgp that can bind to NgR and block NgR signaling. Peptides that can bind and activate NgR signaling are also provided. Inhibitory MAG derivatives and NgR binding inhibitors are useful for blocking the inhibition of neural regeneration mediated by proteins such as MAG, Nogo and/or OMgp in the nervous system. These inhibitors are also useful for treating

neural degeneration associated with injuries, disorders or diseases.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMCC	Draw Des
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☐ 5. Document ID: US 20040097707 A1

L12: Entry 5 of 12

File: PGPB

May 20, 2004

PGPUB--DOCUMENT--NUMBER: 20040097707

PGPUB--FILING--TYPE: new

DOCUMENT--IDENTIFIER: US 20040097707 A1

TITLE: Receptors and membrane-associated proteins

PUBLICATION--DATE: May 20, 2004

INVENTOR--INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lee, Ernestine A.	Albany	CA	US	
Chawla, Narinder K.	San Leandro	CA	US	
Baughn, Mariah R.	San Leandro	CA	US	
Azimzai, Yalda	Castro Valley	CA	US	
Tang, Y. Tom	San Jose	CA	US	
Yue, Henry	Sunnyvale	CA	US	
Thangavelu, Kavitha	Mountain View	CA	US	
Xu, Yuming	Mountain View	CA	US	
Arvizu, Chandra S.	Menlo Park	CA	US	
Warren, Bridget A.	Cupertino	CA	US	
Yao, Monique G.	Carmel	IN	US	
Au-Young, Janice K.	Brisbane	CA	US	
Hafalia, April J.A.	Santa Clara	CA	US	
Elliott, Vicki S.	San Jose	CA	US	
Kallick, Deborah A.	Menlo Park	CA	US	
Gandhi, Ameena r.	San Francisco	CA	US	
Richardson, Thomas W.	Redwood City	CA	US	
Khan, Farrah A.	Des Plaines	IL	US	
Lu, Yan	Palo Alto	CA	US	
Swarnakar, Anita	San Francisco	CA	US	
Ramkumar, Jayalaxmi	Fremont	CA	US	
Nguyen, Danniell B.	San Jose	CA	US	
Graul, Richard C.	San Francisco	CA	US	
Lu, Dyung Aina M.	San Jose	CA	US	

US-CL-CURRENT: 530/350; 435/320.1, 435/325, 435/6, 435/69.1, 530/388.22, 536/23.5

ABSTRACT:

The invention provides human receptors and membrane-associated proteins (REMAP) and polynucleotides which identify and encode REMAP. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with aberrant expression of REMAP.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 6. Document ID: US 20040023334 A1

L12: Entry 6 of 12

File: PGPB

Feb 5, 2004

PGPUB-DOCUMENT-NUMBER: 20040023334

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040023334 A1

TITLE: Modified transferrin fusion proteins

PUBLICATION-DATE: February 5, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Prior, Christopher P.	Philadelphia	PA	US	

US-CL-CURRENT: 435/69.7; 435/320.1, 435/325, 530/380, 530/400, 536/23.5

ABSTRACT:

Modified fusion proteins of transferrin and therapeutic proteins or peptides with increased serum half-life or serum stability are disclosed. Preferred fusion proteins include those modified so that the transferrin moiety exhibits no or reduced glycosylation, binding to iron and/or binding to the transferrin receptor.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 7. Document ID: US 20030203870 A1

L12: Entry 7 of 12

File: PGPB

Oct 30, 2003

PGPUB-DOCUMENT-NUMBER: 20030203870

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030203870 A1

TITLE: Method and reagent for the inhibition of NOGO and NOGO receptor genes

PUBLICATION-DATE: October 30, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Blatt, Lawrence	San Francisco	CA	US	
McSwiggen, James	Boulder	CO	US	
Chowrira, Bharat M.	Louisville	CO	US	
Haeberli, Peter	Berthoud	CO	US	

US-CL-CURRENT: 514/44; 536/23.2, 536/23.5

ABSTRACT:

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.13&ref=12&dbname=PGPB,USPT,U...> 9/30/04

The present invention relates to nucleic acid molecules, including antisense and enzymatic nucleic acid molecules, such as hammerhead ribozymes, DNazymes, and antisense, which modulate the expression of NOGO and NOGO receptor genes.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 8. Document ID: US 20030186267 A1

L12: Entry 8 of 12

File: PGPB

Oct 2, 2003

PGPUB-DOCUMENT-NUMBER: 20030186267

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030186267 A1

TITLE: Novel human leucine-rich repeat domain containing protein, HLLRCR-1

PUBLICATION-DATE: October 2, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Feder, John N.	Belle Mead	NJ	US	
Ramanathan, Chandra S.	Wallingford	CT	US	
Mintier, Gabriel	Hightstown	NJ	US	

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 514/12, 530/350, 536/23.5

ABSTRACT:

The present invention provides novel polynucleotides encoding HLLRCR-1 polypeptides, fragments and homologues thereof. Also provided are vectors, host cells, antibodies, and recombinant and synthetic methods for producing said polypeptides. The invention further relates to diagnostic and therapeutic methods for applying these novel HLLRCR-1 polypeptides to the diagnosis, treatment, and/or prevention of various diseases and/or disorders related to these polypeptides, particularly nervous system diseases and/or disorders. The invention further relates to screening methods for identifying agonists and antagonists of the polynucleotides and polypeptides of the present invention.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 9. Document ID: US 20020012965 A1

L12: Entry 9 of 12

File: PGPB

Jan 31, 2002

PGPUB-DOCUMENT-NUMBER: 20020012965

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020012965 A1

TITLE: Nogo receptor-mediated blockade of axonal growth

PUBLICATION-DATE: January 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Strittmatter, Stephen M.	Clinton	CT	US	

US-CL-CURRENT: 435/69.1; 435/325, 435/4, 435/7.21, 530/350, 530/388.22, 536/23.5

ABSTRACT:

Disclosed are Nogo receptor proteins and biologically active Nogo (ligand) protein fragments. Also disclosed are compositions and methods for modulating the expression or activity of the Nogo and Nogo receptor protein. Also disclosed are peptides which block Nogo-mediated inhibition of axonal extension. The compositions and methods of the invention are useful in the treatment of cranial or cerebral trauma, spinal cord injury, stroke or a demyelinating disease.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc
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☐ 10. Document ID: US 6774216 B2

L12: Entry 10 of 12

File: USPT

Aug 10, 2004

US-PAT-NO: 6774216

DOCUMENT-IDENTIFIER: US 6774216 B2

TITLE: Antibodies to secreted protein HCEJQ69

DATE-ISSUED: August 10, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruben; Steven M.	Olney	MD		
Rosen; Craig A.	Laytonsville	MD		
LaFleur; David W.	Washington	DC		

US-CL-CURRENT: 530/387.9; 430/320, 530/387.1, 530/387.7, 530/388.1, 530/388.15, 536/23.5

ABSTRACT:

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human secreted proteins.

78 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Desc
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☐ 11. Document ID: US 6475753 B1

L12: Entry 11 of 12

File: USPT

Nov 5, 2002

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US-PAT-NO: 6475753
DOCUMENT-IDENTIFIER: US 6475753 B1

TITLE: 94 Human Secreted Proteins

DATE-ISSUED: November 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruben; Steven M.	Olney	MD		
Ni; Jian	Rockville	MD		
Rosen; Craig A.	Laytonsville	MD		
Wei; Ying-Fei	Berkeley	CA		
Young; Paul	Gaithersburg	MD		
Florence; Kimberly	Rockville	MD		
Soppet; Daniel R.	Centreville	VA		
Brewer; Laurie A.	St. Paul	MN		
Endress; Gregory A.	Potomac	MD		
Carter; Kenneth C.	Potomac	MD		
Mucenski; Michael	Cincinnati	OH		
Ebner; Reinhard	Gaithersburg	MD		
Lafleur; David W.	Washington	DC		
Olsen; Henrik	Gaithersburg	MD		
Shi; Yanggu	Gaithersburg	MD		
Moore; Paul A.	Germantown	MD		
Komatsoulis; George	Silver Spring	MD		

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 435/325, 435/471, 435/69.4, 435/71.1,
530/350, 536/23.5

ABSTRACT:

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human secreted proteins.

37 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	MMIC	Draw. Des.
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☐ 12. Document ID: US 5550021 A

L12: Entry 12 of 12

File: USPT

Aug 27, 1996

US-PAT-NO: 5550021

DOCUMENT-IDENTIFIER: US 5550021 A

**** See image for Certificate of Correction ****

TITLE: Allelic diagnosis of susceptibility to compulsive disorder

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.13&ref=12&dbname=PGPB,USPT,U...> 9/30/04

DATE-ISSUED: August 27, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blum; Kenneth	San Antonio	TX		
Noble; Ernest P.	Los Angeles	CA		
Sheridan; Peter J.	San Antonio	TX		

US-CL-CURRENT: 435/6; 435/810, 435/91.1, 435/91.2, 536/23.1, 536/23.5, 536/24.31, 536/24.33

ABSTRACT:

In an important embodiment, the present invention concerns a method for diagnosing and detecting compulsive disorder susceptibility of an individual. The method comprises initially obtaining a DNA sample of said individual and then determining the presence or absence of particular human D.sub.2 receptor gene alleles in said sample. Detection of said alleles in the sample are indicative of predilection to compulsive disorder. A most preferred embodiment is to detect predisposition to impulsive, addictive, and compulsive disorders such as, but not limited to, alcoholism, obesity, smoking, polysubstance abuse and drug addiction, particularly because said alleles have been found to be present in a majority of individuals clinically diagnosed with these compulsive disorders. The human D.sub.2 receptor gene A1, B1, and .sup.In6-Ex7 haplotype I alleles are most preferably detected in said sample.

34 Claims, 12 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 10

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Des.
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Terms	Documents
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☐ 1. Document ID: US 20040192626 A1

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L14: Entry 1 of 116

File: PGPB

Sep 30, 2004

PGPUB-DOCUMENT-NUMBER: 20040192626

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040192626 A1

TITLE: RNA interference mediated inhibition of gene expression using chemically modified short interfering nucleic acid (siNA)

PUBLICATION-DATE: September 30, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
McSwiggen, James	Boulder	CO	US	
Chowrira, Bharat	Louisville	CO	US	
Beigelman, Leonid	Longmont	CO	US	
Macejak, Dennis	Arvada	CO	US	
Zinnen, Shawn	Denver	CO	US	
Pavco, Pamela	Lafayette	CO	US	
Haeberli, Peter	Berthoud	CO	US	
Morrissey, David	Boulder	CO	US	
Fosnaugh, Kathy	Boulder	CO	US	
Jamison, Sharon	Boulder	CO	US	
Usman, Nassim	Lafayette	CO	US	
Thompson, James	Lafayette	CO	US	
Vargeese, Chandra	Thorton	CO	US	
Wang, Weimin	Superior	CO	US	
Chen, Tongqian	Longmont	CO	US	
Vaish, Narendra	Boulder	CO	US	

US-CL-CURRENT: [514/44](#); [536/23.1](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw Des
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☐ 2. Document ID: US 20040191291 A1

L14: Entry 2 of 116

File: PGPB

Sep 30, 2004

PGPUB-DOCUMENT-NUMBER: 20040191291

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040191291 A1

TITLE: Composition and method for nerve regeneration

PUBLICATION-DATE: September 30, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Tohyama, Masaya	Toyonaka-shi		JP	
Yamashita, Toshihide	Minoh-shi		JP	

US-CL-CURRENT: 424/426

ABSTRACT:

The present invention provides a method for regenerating nerves, comprising the step of inhibiting a p75 signal transduction pathway. The inhibition of the p75 signal transduction pathway is selected from the group consisting of inhibition of an interaction between MAG and GT1b, inhibition of an interaction between GT1b and p75, inhibition of an interaction between p75 and Rho, inhibition of an interaction between p75 and Rho GDI, maintenance or enhancement of an interaction between Rho and Rho GDI, inhibition of conversion from Rho GDP to Rho GTP, inhibition of an interaction between Rho and Rho kinase, and inhibition of an activity of Rho kinase.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RWMC	Draw Des
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☐ 3. Document ID: US 20040191240 A1

L14: Entry 3 of 116

File: PGPB

Sep 30, 2004

PGPUB-DOCUMENT-NUMBER: 20040191240

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040191240 A1

TITLE: Composition and method for nerve regeneration

PUBLICATION-DATE: September 30, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Tohyama, Masaya	Osaka		JP	
Yamashita, Toshihide	Osaka		JP	

US-CL-CURRENT: 424/94.5

ABSTRACT:

The present invention provides a pharmaceutical composition and method for regenerating nerves and treating neurological diseases based on nerve regeneration. The present invention employs a substance, such as Pep5, PKC, IP.sub.3, p75, Rho, Rho GDI, MAG, GT1b, p21, Rho kinase, or the like, which are involved in a p75 signal transduction pathway, or an agent capable of specifically interacting with any of these substances to block or suppress the p75 signal transduction pathway, thereby stopping inhibition of nerve regeneration. As a result, nerve regeneration is resumed. The present invention is also the first to disclose that the PTD domain is useful as an agent for nerve regeneration.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 4. Document ID: US 20040191215 A1

L14: Entry 4 of 116

File: PGPB

Sep 30, 2004

PGPUB-DOCUMENT-NUMBER: 20040191215

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040191215 A1

TITLE: Compositions for induction of a therapeutic response

PUBLICATION-DATE: September 30, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Froix, Michael	Mountain View	CA	US	
Bruszewski, Walter	San Francisco	CA	US	

US-CI-CURRENT: 424/85.1

ABSTRACT:

Compositions for attracting specific cells to an in vivo site and for stimulating the attracted cells and local resident cells to achieve a desired therapy are described. In one embodiment, a composition for initiating and promoting repair and regeneration of tissue is described. In another embodiment, a composition for inducing a cytotoxic response to tumor cells is described. The compositions are comprised of drug reservoirs containing one or more therapeutic agents effective (1) to attract one or more desired cells to the tissue site; (2) to stimulate activity, e.g., proliferation, differentiation, and/or release of biological factors that promote a desired activity, in the attracted cells; and (3) to prolong survival of the attracted cells and, if desired, local resident cells. A device for administering the composition at a desired site is also described.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 5. Document ID: US 20040172374 A1

L14: Entry 5 of 116

File: PGPB

Sep 2, 2004

PGPUB-DOCUMENT-NUMBER: 20040172374

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040172374 A1

TITLE: Predictive data mining process analysis and tool

PUBLICATION-DATE: September 2, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Forman, George Henry	Port Orchard	WA	US	

ABSTRACT:

In predictive data mining, a process and tool presents a method to compare given competing algorithms to a derived reference, such as a baseline or benchmark. A result confidence as to the suitability of the competing algorithm to a given task is generated. In an exemplary embodiment, a randomized feature acting, simple, algorithm is used to generate the baseline. In an alternative embodiment, the process and tool is used to determine learnability of the given task. A mechanism to account for overfitting of data is described.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 6. Document ID: US 20040171123 A1

L14: Entry 6 of 116

File: PGPB

Sep 2, 2004

PGPUB-DOCUMENT-NUMBER: 20040171123

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040171123 A1

TITLE: ALBUMIN FUSION PROTEINS

PUBLICATION-DATE: September 2, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Rosen, Craig A.	Laytonsville	MD	US	
Haseltine, William A.	Washington	DC	US	

US-CL-CURRENT: 435/69.7; 424/192.1, 435/252.3, 435/325, 536/23.4

ABSTRACT:

The present invention encompasses albumin fusion proteins. Nucleic acid molecules encoding the albumin fusion proteins of the invention are also encompassed by the invention, as are vectors containing these nucleic acids, host cells transformed with these nucleic acids vectors, and methods of making the albumin fusion proteins of the invention and using these nucleic acids, vectors, and/or host cells. Additionally the present invention encompasses pharmaceutical compositions comprising albumin fusion proteins and methods of treating, preventing, or ameliorating diseases, disorders or conditions using albumin fusion proteins of the invention.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 7. Document ID: US 20040170627 A1

L14: Entry 7 of 116

File: PGPB

Sep 2, 2004

PGPUB-DOCUMENT-NUMBER: 20040170627

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040170627 A1

TITLE: Antagonists of Myelin-associated Glycoprotein and their use in the treatment and/or prevention of Neurological diseases

PUBLICATION-DATE: September 2, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Irving, Elaine Alison	Harlow Essex		GB	
Vinson, Mary	Harlow Essex		GB	

US-CL-CURRENT: 424/145.1; 530/388.23

ABSTRACT:

A method of treatment or prophylaxis of stroke and other neurological diseases in a human which comprises administering an effective amount of a MAG antagonist or anti-MAG antibody including altered antibodies and functional fragments thereof.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 8. Document ID: US 20040167380 A1

L14: Entry 8 of 116

File: PGPB

Aug 26, 2004

PGPUB-DOCUMENT-NUMBER: 20040167380

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040167380 A1

TITLE: Standardized medical cognitive assessment tool

PUBLICATION-DATE: August 26, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Simon, Ely	Hashmonaim		IL	

US-CL-CURRENT: 600/300

ABSTRACT:

A testing system and method for evaluation of neurological function are provided. Specifically, the system and method can be used to differentiate between normal and pathological function for motor skills, logic, reasoning, coordination, verbal function, memory, and various other skills. In addition, it is designed to provide a package to a clinician, including a recommended battery of tests and a results report. The system and method described herein is designed to reduce bias due to the human nature of the tester, while still maintaining versatility, individualized attention and depth of analysis in testing.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 9. Document ID: US 20040166501 A1

PGPUB-DOCUMENT-NUMBER: 20040166501
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040166501 A1

TITLE: Receptors and membrane-associated proteins

PUBLICATION-DATE: August 26, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Azimzai, Yalda	Oakland	CA	US	
Yue, Henry	Sunnyvale	CA	US	
Ding, Li	Creve Coeur	MO	US	
Nguyen, Danniell B	San Jose	CA	US	
Gandhi, Ameena R	San Francisco	CA	US	
Burford, Neil	Durham	CT	US	
Thangavelu, Kavitha	Sunnyvale	CA	US	
Elliott, Vicki S	San Jose	CA	US	
Ramkumar, Jayalaxmi	Fremont	CA	US	
Yao, Monique G	Mountain View	CA	US	
Lal, Preeti G	Santa Clara	CA	US	
Tang, Y. Tom	San Jose	CA	US	
Swarnakar, Anita	San Francisco	CA	US	
Warren, Bridget A	San Marcos	CA	US	
Chawla, Narinder K	Union City	CA	US	
Policky, Jennifer L	San Jose	CA	US	
Xu, Yuming	Mountain View	CA	US	
Honchell, Cynthia D	San Carlos	CA	US	
Au-Young, Janice K	Brisbane	CA	US	
Baughn, Mariah R	Los Angeles	CA	US	
Duggan, Brendan M	Sunnyvale	CA	US	
Lu, Dyung Aina M	San Jose	CA	US	
Gietzen, Kimberly J	San Jose	CA	US	
Jackson, Jennifer L	Santa Cruz	CA	US	
Raumann, Brigitte E	Chicago	IL	US	
Lu, Yan	Mountain View	CA	US	
Kareht, Stephanie K	Redwood City	CA	US	
Tran, Uyen K	San Jose	CA	US	
Richardson, Thomas W	Redwood City	CA	US	
Emerling, Brooke M	Chicago	IL	US	
Hafalia, April J A	Daly City	CA	US	
Burrill, John D	Redwood City	CA	US	
Marcus, Gregory A	San Carlos	CA	US	
Zingler, Kurt A	San Francisco	CA	US	
Kable, Amy E	Silver Springs	MD	US	
Gorvad, Ann E	Bellingham	WA	US	

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 435/7.2, 514/12, 530/350,
530/388.22, 536/23.5

ABSTRACT:

The invention provides human receptors and membrane-associated proteins (REMAP) and polynucleotides which identify and encode REMAP. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with aberrant expression of REMAP.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 10. Document ID: US 20040151739 A1

L14: Entry 10 of 116

File: PGPB

Aug 5, 2004

PGPUB-DOCUMENT-NUMBER: 20040151739

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040151739 A1

TITLE: Use of a composition for the stimulation of nerve growth, the inhibition of scar tissue formation, the reduction of secondary damage and/or the accumulation of macrophages

PUBLICATION-DATE: August 5, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Monnier, Philippe P.	Tubingen		DE	
Mueller, Bernhard K.	Tubingen		DE	
Schwab, Jan	Tubingen		DE	

US-CL-CURRENT: 424/239.1; 514/12, 530/350

ABSTRACT:

The invention relates to the use of a composition, comprising a fusion protein and at least one transporter for the in-vivo inhibition of scar tissue formation, the in-vivo reduction of secondary damage and/or the in-vivo accumulation of macrophages. The fusion protein contains at least one binding domain for the transporter and at least one modulation domain for the covalent modification of small GTP-binding proteins. The transporter permits the uptake of the fusion protein in a target cell.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 11. Document ID: US 20040151728 A1

L14: Entry 11 of 116

File: PGPB

Aug 5, 2004

PGPUB-DOCUMENT-NUMBER: 20040151728

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040151728 A1

TITLE: Lectin compositions and methods for modulating an immune response to an antigen

PUBLICATION-DATE: August 5, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Segal, Andrew H.	Boston	MA	US	
Young, Elihu	Sharon	MA	US	

US-CL-CURRENT: 424/184.1; 424/199.1, 424/200.1, 530/395

ABSTRACT:

The present invention provides a fusion polypeptide which can bind to a cell surface binding moiety (e.g., a carbohydrate) and serve as a ligand for a cell surface polypeptide, as well as a vector comprising a nucleic acid encoding for such a fusion polypeptide, and a host cell comprising such nucleic acid. The present invention also provides a composition comprising an antigen bearing target and such a fusion polypeptide, as well as a composition comprising a virus or a cell and such a fusion polypeptide. The present invention further relates to a method of modulating an immune response in an animal using such compositions.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 12. Document ID: US 20040146953 A1

L14: Entry 12 of 116

File: PGPB

Jul 29, 2004

PGPUB-DOCUMENT-NUMBER: 20040146953

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040146953 A1

TITLE: Assay

PUBLICATION-DATE: July 29, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Blackstock, Walter Philip	Stevenage		GB	
Hale, Richard Stephen	Stevenage		GB	
Prinjha, Rabinder	Harlow		GB	
Rowley, Adele	Stevenage		GB	

US-CL-CURRENT: 435/7.23

ABSTRACT:

A method of identifying a modulator BACE function, the method comprising: (i) providing (a) a BACE polypeptide; (b) a Nogo polypeptide; (c) a test agent under conditions that would permit binding of a BACE polypeptide (a) to a Nogo polypeptide (b) in the absence of the test agent (c) wherein said BACE polypeptide (a) is BACE or a variant thereof or a fragment of either thereof capable of binding Nogo; and polypeptide (b) is Nogo or a variant thereof or a fragment of either thereof capable of binding BACE; (i) monitoring BACE mediated activity; and (ii) determining thereby whether the test agent is a modulator of BACE activity. Modulators identified by a method of the invention and use of such modulators in the manufacture of a medicament for the treatment of disorders responsive to the modulation of BACE activity such as

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 13. Document ID: US 20040142335 A1

L14: Entry 13 of 116

File: PGPB

Jul 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040142335

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040142335 A1

TITLE: Method for determining skin stress or skin ageing in vitro

PUBLICATION-DATE: July 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Petersohn, Dirk	Koeln		DE	
Conradt, Marcus	Pretoria		ZA	
Hofmann, Kay	Koeln		DE	

US-CL-CURRENT: 435/6

ABSTRACT:

The invention relates to a method for determining skin stress and/or skin ageing in humans or animals in vitro, test kits and biochips for determining skin stress and/or skin ageing, and the use of proteins, mRNA molecules or fragments of proteins or mRNA molecules as skin stress and/or ageing markers. The invention also relates to a test method for demonstrating the effectiveness of cosmetic or pharmaceutical active ingredients against skin stress and/or skin ageing, a screening method for identifying cosmetic or pharmaceutical active ingredients against skin stress and/or skin ageing, and a method for producing a cosmetic and/or pharmaceutical preparation against skin stress and/or skin ageing. The invention further relates to a cosmetic or pharmaceutical preparation against skin stress and/or skin ageing.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 14. Document ID: US 20040138272 A1

L14: Entry 14 of 116

File: PGPB

Jul 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040138272

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040138272 A1

TITLE: 1,4-Substituted cyclohexane derivatives

PUBLICATION-DATE: July 15, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
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McKerracher, Lisa	Verdun	CA
Thouin, Eryk	Montreal	CA
Lubell, William D.	Montreal	CA

US-CL-CURRENT: 514/357; 514/408, 514/534, 514/620, 546/335, 546/336, 548/571,
560/125, 564/191

ABSTRACT:

Allylic compounds represented by the formula (I) are provided, 1

wherein each of R.sub.1 to R.sub.8, m, n, A and X are as defined in the Specification. These compounds can inhibit Rho kinase, and can find utility in repair of damaged nerves in the central and peripheral nervous system by inducing axon growth and regeneration, and in the treatment by inhibition of Rho kinase in disease states in which Rho kinase is implicated. The compounds are relatively cell permeable and pharmaceutical compositions thereof can promote neurite growth and are also useful for the prevention of cell proliferation in malignant diseases.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 15. Document ID: US 20040132096 A1

L14: Entry 15 of 116

File: PGPB

Jul 8, 2004

PGPUB-DOCUMENT-NUMBER: 20040132096

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040132096 A1

TITLE: METHOD OF IDENTIFYING MODULATORS OF NOGO-FUNCTIONS

PUBLICATION-DATE: July 8, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Blackstock, Walter Philip	Stevenage		GB	
Hale, Richard Stephen	Stevenage		GB	
Prinjha, Rabinder	Harlow		GB	
Rowley, Adele	Stevenage		GB	

US-CL-CURRENT: 435/7.1

ABSTRACT:

A method of identifying a modulator Nogo function, the method comprising: (i) providing (a) a BACE polypeptide; (b) a Nogo polypeptide; (c) a test agent under conditions that would permit binding of a BACE polypeptide (a) to a Nogo polypeptide (b) in the absence of the test agent (c) wherein said BACE polypeptide (a) is BACE or a variant thereof or a fragment of either thereof capable of binding Nogo; and polypeptide (b) is Nogo or a variant thereof or a fragment of either thereof capable of binding BACE; (ii) monitoring Nogo mediated activity; and (iii) determining thereby whether the test agent is a modulator of Nogo activity. Modulators identified by a method of the invention and use of such modulators in the manufacture of a medicament for the treatment of disorders responsive to the modulation of Nogo activity such as acute neuronal injury.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 16. Document ID: US 20040126793 A1

L14: Entry 16 of 116

File: PGPB

Jul 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040126793

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040126793 A1

TITLE: Lectin compositions and methods for modulating an immune response to an antigen

PUBLICATION-DATE: July 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Segal, Andrew H.	Boston	MA	US	
Young, Elihu	Sharon	MA	US	

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/419, 435/69.1, 530/370, 530/395, 536/23.5

ABSTRACT:

The present invention provides a fusion polypeptide which can bind to a cell surface binding moiety (e.g., a carbohydrate) and serve as a ligand for a cell surface polypeptide, as well as a vector comprising a nucleic acid encoding for such a fusion polypeptide, and a host cell comprising such nucleic acid. The present invention also provides a composition comprising an antigen bearing target and such a fusion polypeptide, as well as a composition comprising a virus or a cell and such a fusion polypeptide. The present invention further relates to a method of modulating an immune response in an animal using such compositions.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 17. Document ID: US 20040126357 A1

L14: Entry 17 of 116

File: PGPB

Jul 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040126357

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040126357 A1

TITLE: Lectin compositions and methods for modulating an immune response to an antigen

PUBLICATION-DATE: July 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Segal, Andrew H.	Boston	MA	US	

US-CL-CURRENT: 424/85.1; 424/185.1, 424/93.2

ABSTRACT:

The present invention provides a fusion polypeptide which can bind to a cell surface binding moiety (e.g., a carbohydrate) and serve as a ligand for a cell surface polypeptide, as well as a vector comprising a nucleic acid encoding for such a fusion polypeptide, and a host cell comprising such nucleic acid. The present invention also provides a composition comprising an antigen bearing target and such a fusion polypeptide, as well as a composition comprising a virus or a cell and such a fusion polypeptide. The present invention further relates to a method of modulating an immune response in an animal using such compositions.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 18. Document ID: US 20040121341 A1

L14: Entry 18 of 116

File: PGPB

Jun 24, 2004

PGPUB-DOCUMENT-NUMBER: 20040121341

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040121341 A1

TITLE: Inhibitors of myelin-associated glycoprotein (MAG) activity for regulating neural growth and regeneration

PUBLICATION-DATE: June 24, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Filbin, Marie T.	New York	NY	US	
Domeniconi, Marco	New York	NY	US	
Cao, Zixuan	Elmhurst	NY	US	

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 530/395, 536/23.5

ABSTRACT:

The present invention relates generally to products, compositions and methods useful for promoting neural repair and regeneration. The products and compositions of this invention include myelin-associated glycoprotein (MAG) derivatives that are inhibitors of endogenous MAG (e.g., mutant MAG proteins) and Nogo Receptor (NgR) binding inhibitors that are peptides derived from MAG, Nogo and OMgp that can bind to NgR and block NgR signaling. Peptides that can bind and activate NgR signaling are also provided. Inhibitory MAG derivatives and NgR binding inhibitors are useful for blocking the inhibition of neural regeneration mediated by proteins such as MAG, Nogo and/or OMgp in the nervous system. These inhibitors are also useful for treating neural degeneration associated with injuries, disorders or diseases.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 19. Document ID: US 20040120925 A1

L14: Entry 19 of 116

File: PGPB

Jun 24, 2004

PGPUB-DOCUMENT-NUMBER: 20040120925
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040120925 A1

TITLE: Remedies for nerve damages

PUBLICATION-DATE: June 24, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Toda, Masahiro	Kanagawa		JP	
Kawakami, Yutaka	Kanagawa		JP	
Toyama, Yoshiaki	Tokyo		JP	
Mikami, Yuji	Tokyo		JP	

US-CL-CURRENT: 424/85.2; 424/85.1, 530/351

ABSTRACT:

The present invention provides a remedy for a nerve dysfunctional disorder such as a central nervous system damage including a spinal cord injury and a cerebral infarction and the like having an excellent nerve regeneration promoting action which can be administered not only by injecting into a injured site but also by various administration methods including intravenous administration, which can be easily handled and stored over a long time, and can be prepared in a large amount at any time. Said remedy for a nerve dysfunctional disorder such as a central nervous system damage including a spinal cord injury and a cerebral infarction and the like are prepared by using the following as active ingredients: one or more substances selected from a substance secreted from dendritic cells such as IL-12, GM-CSF and the like, a substance inducing and proliferating dendritic cells, a substance activating dendritic cells; a substance inducing the expression of a neurotrophic factor in nerve tissues, a substance inducing and proliferating microglia and macrophages in nerve tissues; and a vector which can express the aforementioned substances; or dendritic cell subsets secreting a neurotrophic factor such as NT-3, CNTF, TGF- β 1, IL-6, and EGF.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 20. Document ID: US 20040107084 A1

L14: Entry 20 of 116

File: PGPB

Jun 3, 2004

PGPUB-DOCUMENT-NUMBER: 20040107084
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040107084 A1

TITLE: Interactive technique for optimizing drug development from the pre-clinical phases through phase-IV

PUBLICATION-DATE: June 3, 2004

INVENTOR-INFORMATION:

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.15&ref=14&dbname=PGPB,USPT,U...> 9/30/04

NAME	CITY	STATE	COUNTRY	RULE-47
Arakelyan, Levon	Ashdod		IL	
Selitser, Vera	Jerusalem		IL	
Agur, Zvia	Tel Aviv		IL	

US-CL-CURRENT: 703/11; 705/2

ABSTRACT:

A method of performing interactive clinical trials for testing a new drug comprising performing a pre-clinical phase in which a computer model for pharmacokinetics and pharmacodynamics of the drug is created and adjusted based on in vitro studies and in vivo studies in animals. A phase I clinical research is performed in which a clinical trial on at least a single dose is performed in parallel with performing computer simulation studies using the computer model. The computer model is adjusted based on comparison of the results of the clinical research and the computer simulation. A maximal tolerated dose, minimum effective dose, and a recommended dose is determined based on the phase I clinical research in conjunction with the computer simulations. The drug is checked for cumulative effects and providing this information to the computer model. Multiple simulations are performed using the computer model with different doses and dosing intervals. An optimal protocol is determined for the most responsive patient populations and indications for a phase II clinical trial. Phase II clinical trial is performed where a number of small scale clinical trials are performed in parallel based on results of the above. The interim results are analyzed to choose the most promising regimens for continued clinical trials. Phase III clinical research is performed for chosen indications by chosen protocols. Phase IV studies are performed for post-marketing subpopulation analysis and long term product safety assessment.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	MMMC	Draw. Des.
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☐ 21. Document ID: US 20040106197 A1

L14: Entry 21 of 116

File: PGPB

Jun 3, 2004

PGPUB-DOCUMENT-NUMBER: 20040106197

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040106197 A1

TITLE: Central nerve system precursor cells inducing synaptogenic neurons in spinal cord

PUBLICATION-DATE: June 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Okano, Hideyuki	Suita-shi		JP	
Ogawa, Yuhto	Kawasa-shi		JP	

US-CL-CURRENT: 435/368

ABSTRACT:

The present invention provides central nervous system neural progenitor cells which can induce neurons with synapse forming ability, oligodendrocytes, astrocytes and the like when transplanted into an injured or disabled spinal cord, a method for

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.15&ref=14&dbname=PGPB,USPT,U...> 9/30/04

preparing said central nervous system neural progenitor cells, a method for screening promoters or inhibitors of synapse formation using said central nervous system neural progenitor cells, a therapeutic drug to improve neural injuries or neural functions using said central nervous system neural progenitor cells, and the like. The central nervous system neural progenitor cells comprising neural stem cells derived from the spinal cord and cultured in the presence of cytokine, is transplanted into the injury site at a certain period after the spinal injury. The transplantation can induce neurons with synapse forming ability, oligodendrocytes, and astrocytes in the injury site, resulting in forming synapses between induced neurons and host neurons, and thus the injured spinal cord function is improved.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	RMC	Draw Des
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☐ 22. Document ID: US 20040106125 A1

L14: Entry 22 of 116

File: PGPB

Jun 3, 2004

PGPUB-DOCUMENT-NUMBER: 20040106125

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040106125 A1

TITLE: Neurotransmission-associated proteins

PUBLICATION-DATE: June 3, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Duggan, Brendan M	Sunnyvale	CA	US	
Honchell, Cynthia D	San Carlos	CA	US	
Ison, Craig H	San Jose	CA	US	
Thangavelu, Kavitha	Sunnyvale	CA	US	
Lu, Dyung Aina M	San Jose	CA	US	
Baughn, Mariah R	Los Angeles	CA	US	
Lal, Preeti G	Santa Clara	CA	US	
Yue, Henry	Sunnyvale	CA	US	
Tang, Y Tom	San Jose	CA	US	
Warren, Bridget A	San Marcos	CA	US	
Lee, Ernestine A	Castro Valley	CA	US	
Griffin, Jennifer A	Fremont	CA	US	
Forsythe, Ian J	Edmonton	CA	CA	
Chawla, Narinder K	Union City	CA	US	
Jiang, Xin	Saratoga	CA	US	
Jackson, Alan A	Los Gatos		US	

US-CL-CURRENT: 435/6; 424/143.1, 435/320.1, 435/325, 435/69.1, 530/350, 530/388.22

ABSTRACT:

The invention provides human neurotransmission-associated proteins (NTRAN) and polynucleotides which identify and encode NTRAN. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with aberrant expression of NTRAN.

☐ 23. Document ID: US 20040102376 A1

L14: Entry 23 of 116

File: PGPB

May 27, 2004

PGPUB-DOCUMENT-NUMBER: 20040102376

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040102376 A1

TITLE: Use of rgm and its modulators

PUBLICATION-DATE: May 27, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Mueller, Bernhard K	Neustadt		DE	
Monnier, Philippe P	Toronto		CA	
Macchi, Paolo	Tubingen		DE	
Bonhoeffer, Friedrich	Tubingen		DE	
Stahl, Bernd	Tubingen		DE	
Mann, Matthias	Odense M		DK	
Anderson, Jons S	Odense SO		DK	

US-CL-CURRENT: 514/12; 514/44

ABSTRACT:

The present invention relates to the use of a modulator of a polypeptide having or comprising an amino acid sequence as disclosed herein or of a functional fragment or derivative thereof or of a polynucleotide encoding said polypeptide or fragment or derivative for the preparation of a pharmaceutical composition for preventing, alleviating or treating diseases or conditions associated with the degeneration or injury of vertebrate nervous tissue, associated with seizures or associated with angiogenic disorders or disorders of the cardio-vascular system. Furthermore, the invention provides for the use of a modulator of a polypeptide having or comprising said amino acid sequence or of a functional fragment or derivative thereof or of a polynucleotide encoding said polypeptide or fragment or derivative for the preparation of a pharmaceutical composition for preventing, alleviating or treating diseases or conditions associated with the degeneration or injury of vertebrate nervous tissue, associated with angiogenic disorders or disorders of the cardio-vascular system. In addition the invention provides for the use of said polypeptide or said functional fragment or derivative thereof for the preparation of a pharmaceutical composition for preventing or treating tumor growth or formation of tumor metastases or as a marker of stem cells.

☐ 24. Document ID: US 20040097707 A1

L14: Entry 24 of 116

File: PGPB

May 20, 2004

PGPUB-DOCUMENT-NUMBER: 20040097707

TITLE: Receptors and membrane-associated proteins

PUBLICATION-DATE: May 20, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lee, Ernestine A.	Albany	CA	US	
Chawla, Narinder K.	San Leandro	CA	US	
Baughn, Mariah R.	San Leandro	CA	US	
Azimzai, Yalda	Castro Valley	CA	US	
Tang, Y. Tom	San Jose	CA	US	
Yue, Henry	Sunnyvale	CA	US	
Thangavelu, Kavitha	Mountain View	CA	US	
Xu, Yuming	Mountain View	CA	US	
Arvizu, Chandra S.	Menlo Park	CA	US	
Warren, Bridget A.	Cupertino	CA	US	
Yao, Monique G.	Carmel	IN	US	
Au-Young, Janice K.	Brisbane	CA	US	
Hafalia, April J.A.	Santa Clara	CA	US	
Elliott, Vicki S.	San Jose	CA	US	
Kallick, Deborah A.	Menlo Park	CA	US	
Gandhi, Ameena r.	San Francisco	CA	US	
Richardson, Thomas W.	Redwood City	CA	US	
Khan, Farrah A.	Des Plaines	IL	US	
Lu, Yan	Palo Alto	CA	US	
Swarnakar, Anita	San Francisco	CA	US	
Ramkumar, Jayalaxmi	Fremont	CA	US	
Nguyen, Danniel B.	San Jose	CA	US	
Graul, Richard C.	San Francisco	CA	US	
Lu, Dyung Aina M.	San Jose	CA	US	

US-CL-CURRENT: 530/350; 435/320.1, 435/325, 435/6, 435/69.1, 530/388.22, 536/23.5

ABSTRACT:

The invention provides human receptors and membrane-associated proteins (REMAP) and polynucleotides which identify and encode REMAP. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with aberrant expression of REMAP.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 25. Document ID: US 20040075575 A1

L14: Entry 25 of 116

File: PGPB

Apr 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040075575

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040075575 A1

TITLE: Recognition/anti-collision light for aircraft

PUBLICATION-DATE: April 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
DeMarco, Ralph Anthony	Palm Harbor	FL	US	
Draves, Raymond Henry	Safety Harbor	FL	US	
Kielbon, Timothy Scott	Lutz	FL	US	
Knight, Todd Christopher	Tampa	FL	US	
Patel, Anish Vikram	Odessa	FL	US	
Stephens, Merle Keith	St. Petersburg	FL	US	

US-CL-CURRENT: 340/815.4; 340/981, 340/983

ABSTRACT:

A recognition light includes a reflector having an axis and first and second annular semi-parabolic reflective surfaces which have respective focal points axially spaced apart from one another, and first and second annular lamps respectively disposed at the focal points. A cover surrounds the reflector and lamps and includes a lens for focusing the light along a plane perpendicular to the axis of the reflector, the lens including first and second Fresnel lens portions each including a convex lens and a prism lens, the convex lenses being disposed adjacent one another and transaxially aligned with the first and second lamps, respectively. A light detector detects light emitted from at least one of the lamps, a monitor circuit provides a fail signal when a characteristic of the light output of at least one of the lamps does not satisfy a specified criteria, and a control circuit first activates the first lamp and then the second lamp in response to receipt of the fail signal of the monitor circuit.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw. Des.
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☐ 26. Document ID: US 20040072160 A1

L14: Entry 26 of 116

File: PGPB

Apr 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040072160

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040072160 A1

TITLE: Molecular toxicology modeling

PUBLICATION-DATE: April 15, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Mendrick, Donna	Gaithersburg	MD	US	
Porter, Mark	Gaithersburg	MD	US	
Johnson, Kory	Gaithersburg	MD	US	
Higgs, Brandon	Gaithersburg	MD	US	
Castle, Arthur	Gaithersburg	MD	US	
Elashoff, Michael	Gaithersburg	MD	US	

US-CL-CURRENT: 435/6; 435/91.2, 436/84

ABSTRACT:

The present invention is based on the elucidation of the global changes in gene expression and the identification of toxicity markers in tissues or cells exposed to a known renal toxin. The genes may be used as toxicity markers in drug screening and toxicity assays. The invention includes a database of genes characterized by toxin-induced differential expression that is designed for use with microarrays and other solid-phase probes.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 27. Document ID: US 20040071700 A1

L14: Entry 27 of 116

File: PGPB

Apr 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040071700

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040071700 A1

TITLE: Obesity linked genes

PUBLICATION-DATE: April 15, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kim, Jaeseob	Yousong-Gu Taejon	WI	KR	
Galant, Ron	Madison		US	

US-CL-CURRENT: 424/145.1; 435/7.2

ABSTRACT:

The present invention relates to newly identified nucleic acids, their encoded proteins, and to the use of such nucleic acids and proteins. The invention also relates the correlation between the expression of genes and fat cell size and number. The invention also relates to modifying the activity of a protein that affects the number and/or size of fat cells by regulating the expression of the nucleic acids, homologs, or active variants or their encoded proteins.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 28. Document ID: US 20040063161 A1

L14: Entry 28 of 116

File: PGPB

Apr 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040063161

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040063161 A1

TITLE: Compositions and method of treating Alzheimer's disease

PUBLICATION-DATE: April 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Yan, Riqiang	Kalamazoo	MI	US	
Lu, Yifeng	Portage	MI	US	

US-CL-CURRENT: 435/7.2; 514/12, 530/324

ABSTRACT:

The invention relates to compositions and methods for treating Alzheimer's Disease and other amyloidoses, to polypeptides that modulate BACE1 activity, and methods to identify agents for use in treating Alzheimer's Disease and other amyloidoses.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 29. Document ID: US 20040049128 A1

L14: Entry 29 of 116

File: PGPB

Mar 11, 2004

PGPUB-DOCUMENT-NUMBER: 20040049128

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040049128 A1

TITLE: Biopsy apparatus

PUBLICATION-DATE: March 11, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Miller, Michael E.	Trafalgar	IN	US	
Mark, Joseph L.	Indianapolis	IN	US	
Hancock, John P.	Fishers	IN	US	
Butcher, Charles	Carmel	IN	US	

US-CL-CURRENT: 600/566

ABSTRACT:

A disposable tissue removal device comprises a "tube within a tube" cutting element mounted to a handpiece. The inner cannula of the cutting element defines an inner lumen and terminates in an inwardly beveled, razor-sharp cutting edge. The inner cannula is driven by both a rotary motor and a reciprocating motor. At the end of its stroke, the inner cannula makes contact with the cutting board to completely sever the tissue. An aspiration vacuum is applied to the inner lumen to aspirate excised tissue through the inner cannula and into a collection trap that is removably mounted to the handpiece. The rotary and reciprocating motors are hydraulically powered through a foot pedal operated hydraulic circuit. The entire biopsy device is configured to be disposable. In one embodiment, the cutting element includes a cannula hub that can be connected to a fluid source, such as a valve-controlled saline bag.

☐ 30. Document ID: US 20040039071 A1

L14: Entry 30 of 116

File: PGPB

Feb 26, 2004

PGPUB-DOCUMENT-NUMBER: 20040039071

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040039071 A1

TITLE: Recycling method and recycling apparatus of part for image forming apparatus, and recycled part for image forming apparatus

PUBLICATION-DATE: February 26, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Endo, Miharu	Minamiashigara-shi		JP	
Murofushi, Toshiaki	Minamiashigara-shi		JP	
Nakajima, Fumitaka	Minamiashigara-shi		JP	
Saito, Shinichiro	Minamiashigara-shi		JP	
Tsuda, Jun	Minamiashigara-shi		JP	
Boshu, Masaharu	Minamiashigara-shi		JP	

US-CL-CURRENT: 521/40

ABSTRACT:

A recycling method of a part for an image forming apparatus, the part being used in the image forming apparatus and provided with a thermoplastic resin member at least in a part thereof is provided which includes: recovering the part for the image forming apparatus; disassembling the recovered part for the image forming apparatus; retrieving the thermoplastic resin member from the disassembled part for the image forming apparatus; and performing heat processing to the retrieved thermoplastic resin member to recycle the member.

☐ 31. Document ID: US 20040034043 A1

L14: Entry 31 of 116

File: PGPB

Feb 19, 2004

PGPUB-DOCUMENT-NUMBER: 20040034043

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040034043 A1

TITLE: Positively-charged peptide nucleic acid analogs with improved properties

PUBLICATION-DATE: February 19, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Katzhendler, Jehoshua	Jerusalem		IL	

Schlossmann, Ada	Jerusalem	IL
Najajreh, Yousuf	Bethlehem	IL
Gibson, Dan	Jerusalem	IL

US-CL-CURRENT: 514/263.38; 514/263.4, 514/269, 544/276, 544/277, 544/309, 544/310

ABSTRACT:

The present invention relates to novel types of peptide nucleic acids (PNAs) with improved properties. In particular, it relates to positively charged PNA units having an ethylene linker between the backbone and the nucleobase, to oligonucleotide analogs comprising these units, to oligomers comprising these units, and to the use of positively charged PNAs as novel delivery agents with therapeutic and diagnostic applications including for antisense therapy.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 32. Document ID: US 20040029790 A1

L14: Entry 32 of 116

File: PGPB

Feb 12, 2004

PGPUB-DOCUMENT-NUMBER: 20040029790

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040029790 A1

TITLE: Novel human proteins, polynucleotides encoding them and methods of using the same

PUBLICATION-DATE: February 12, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Patturajan, Meera	Branford	CT	US	
Gerlach, Valerie	Branford	CT	US	
Anderson, David W.	Branford	CT	US	
Taupier, Raymond J. JR.	East Haven	CT	US	
Zerhusen, Bryan D.	Branford	CT	US	
Guo, Xiaojia Sasha	Branford	CT	US	
Casman, Stacie J.	North Haven	CT	US	
Hjalt, Tord	Lomna	CT	SE	
Miller, Charles E.	Guilford	CT	US	
Kekuda, Ramesh	Norwalk	CT	US	
Shimkets, Richard A.	Guilford	CT	US	
Malyankar, Uriel M.	Branford	CT	US	
Zhong, Mei	Branford	CT	US	
Padigaru, Muralidhara	Branford	CT	US	
Li, Li	Branford	CT	US	
Shenoy, Suresh G.	Branford	CT	US	
Gorman, Linda	Branford	CT	US	
Edinger, Shlomit R.	New Haven		US	

US-CL-CURRENT: 514/12; 435/7.1, 530/350

ABSTRACT:

Disclosed herein are nucleic acid sequences that encode novel polypeptides. Also disclosed are polypeptides encoded by these nucleic acid sequences, and antibodies that immunospecifically bind to the polypeptide, as well as derivatives, variants, mutants, or fragments of the novel polypeptide, polynucleotide, or antibody specific to the polypeptide. Vectors, host cells, antibodies and recombinant methods for producing the polypeptides and polynucleotides, as well as methods for using same are also included. The invention further discloses therapeutic, diagnostic and research methods for diagnosis, treatment, and prevention of disorders involving any one of these novel human nucleic acids and proteins.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 33. Document ID: US 20040029169 A1

L14: Entry 33 of 116

File: PGPB

Feb 12, 2004

PGPUB-DOCUMENT-NUMBER: 20040029169

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040029169 A1

TITLE: Reducing NgR-p75 mediated inhibition of axon regeneration

PUBLICATION-DATE: February 12, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
He, Zhigang	Boston	MA	US	
Wang, Kevin C.	Boston	MA	US	
Kim, Jieun A.	Boston	MA	US	

US-CL-CURRENT: 435/7.1; 435/7.2

ABSTRACT:

Inhibitors of Nogo Receptor (NgR)-p75 binding are used to reduce NgR-p75 binding mediated axon growth inhibition. Mixtures of NgR and p75 are used in pharmaceutical screens to characterize agents as inhibiting binding of NgR to p75 and promoting axon regeneration.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 34. Document ID: US 20040023334 A1

L14: Entry 34 of 116

File: PGPB

Feb 5, 2004

PGPUB-DOCUMENT-NUMBER: 20040023334

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040023334 A1

TITLE: Modified transferrin fusion proteins

PUBLICATION-DATE: February 5, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Prior, Christopher P.	Philadelphia	PA	US	

US-CL-CURRENT: 435/69.7; 435/320.1, 435/325, 530/380, 530/400, 536/23.5

ABSTRACT:

Modified fusion proteins of transferrin and therapeutic proteins or peptides with increased serum half-life or serum stability are disclosed. Preferred fusion proteins include those modified so that the transferrin moiety exhibits no or reduced glycosylation, binding to iron and/or binding to the transferrin receptor.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 35. Document ID: US 20040018555 A1

L14: Entry 35 of 116

File: PGPB

Jan 29, 2004

PGPUB-DOCUMENT-NUMBER: 20040018555

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040018555 A1

TITLE: Novel antibodies that bind to antigenic polypeptides, nucleic acids encoding the antigens, and methods of use

PUBLICATION-DATE: January 29, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Anderson, David W.	Branford	CT	US	
Zerhusen, Bryan D.	Branford	CT	US	
Li, Li	Branford	CT	US	
Zhong, Mei	Branford	CT	US	
Casman, Stacie J.	North Haven	CT	US	
Gerlach, Valerie	Branford	CT	US	
Shimkets, Richard A.	Guilford	CT	US	
Gorman, Linda	Branford	CT	US	
Pena, Carol E. A.	Guilford	CT	US	
Kekuda, Ramesh	Norwalk	CT	US	
Patturajan, Meera	Branford	CT	US	
Spytek, Kimberly A.	New Haven	CT	US	
Leite, Mario W.	Milford	CT	US	
Rastelli, Luca	Guilford	CT	US	
MacDougall, John R.	Hamden	CT	US	
Taupier, Raymond J. JR.	East Haven	CT	US	
Guo, Xiaojia Sasha	Branford	CT	US	
Miller, Charles E.	Guilford	CT	US	
Shenoy, Suresh G.	Branford	CT	US	
Hjalt, Tord	Lomma	CT	US	

Voss, Edward Z.	Wallingford	CT	US
Boldog, Ferenc L.	North Haven	CT	US
Malyankar, Uriel M.	Branford	CT	US
Padigar, Muralidhara	Branford	CT	US
Ji, Weizhen	Branford	CT	US
Smithson, Glennnda	Guilford	CT	US
Edinger, Shlomit R.	New Haven	CT	US
Millet, Isabelle	Milford	CT	US
Ellerman, Karen	Branford	CT	US

US-CL-CURRENT: 435/7.1; 424/130.1, 435/320.1, 435/326, 435/69.1, 530/388.1, 536/23.53

ABSTRACT:

Disclosed herein are nucleic acid sequences that encode polypeptides. Also disclosed are antibodies, which immunospecifically-bind to the polypeptide, as well as derivatives, variants, mutants, or fragments of the aforementioned polypeptide, polynucleotide, or antibody. The invention further discloses therapeutic, diagnostic and research methods for diagnosis, treatment, and prevention of disorders involving any one of these novel human nucleic acids, polypeptides, or antibodies, or fragments thereof.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 36. Document ID: US 20040016025 A1

L14: Entry 36 of 116

File: PGPB

Jan 22, 2004

PGPUB-DOCUMENT-NUMBER: 20040016025

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040016025 A1

TITLE: Rice promoters for regulation of plant expression

PUBLICATION-DATE: January 22, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Budworth, Paul	San Diego	CA	US	
Moughamer, Todd	San Diego	CA	US	
Briggs, Steven P.	Del Mar	CA	US	
Cooper, Bret	La Jolla	CA	US	
Glazebrook, Jane	San Diego	CA	US	
Goff, Stephen Arthur	Encinitas	CA	US	
Katagiri, Fumiaki	San Diego	CA	US	
Kreps, Joel	Carlsbad	CA	US	
Provart, Nicholas	Toronto	CA	CA	
Ricke, Darrell	San Diego	CA	US	
Zhu, Tong	San Diego		US	

US-CL-CURRENT: 800/287; 435/320.1, 435/419, 800/312, 800/320, 800/320.1, 800/320.2, 800/320.3

ABSTRACT:

The invention provides a method to identify a plurality of plant promoters having a particular characteristic as well as the sequence of promoters having one of those characteristics.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 37. Document ID: US 20030229134 A1

L14: Entry 37 of 116

File: PGPB

Dec 11, 2003

PGPUB-DOCUMENT-NUMBER: 20030229134

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030229134 A1

TITLE: Methods for stimulating nervous system regeneration and repair by inhibiting phosphodiesterase type 4

PUBLICATION-DATE: December 11, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Filbin, Marie T.	New York	NY	US	
Nikulina, Elena	Astoria	NY	US	

US-CL-CURRENT: 514/424

ABSTRACT:

The invention relates to the novel identification of inhibitors of phosphodiesterase type 4 ("PDE4") as agents which can reverse inhibition of neural regeneration in the mammalian central and peripheral nervous system. The invention provides compositions and methods using agents that can reverse the inhibitory effects on neural regeneration by regulating PDE4 expression. A composition comprising at least one PDE4 inhibitor in an amount effective to inhibit PDE4 activity in a neuron when administered to an animal is provided. Methods for regulating (e.g., promoting) neural growth or regeneration in the nervous system, methods for treating injuries or damage to nervous tissue or neurons, and methods for treating neural degeneration associated with disorders or diseases, comprising the step of administering to an animal a composition comprising a therapeutically effective amount of an agent which inhibits phosphodiesterase IV activity in a neuron are provided.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 38. Document ID: US 20030219767 A1

L14: Entry 38 of 116

File: PGPB

Nov 27, 2003

PGPUB-DOCUMENT-NUMBER: 20030219767

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030219767 A1

TITLE: Compositions, kits, and methods for identification, assessment, prevention,

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.15&ref=14&dbname=PGPB,USPT,U...> 9/30/04

and therapy of breast cancer

PUBLICATION-DATE: November 27, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Ayers, Mark D.	Ayer	MA	US	
Stec, Jim	Plymouth	MA	US	
Damokosh, Andrew	West Hartford	CT	US	
Clark, Edwin	Ashland	MA	US	
Hess, Kenneth R.	Houston	TX	US	
Hortobagyi, Gabriel N.	Bellaire	TX	US	
Pusztai, Lajos	Pearland	TX	US	
Symmans, W. Fraser	Houston	TX	US	

US-CL-CURRENT: 435/6; 435/7.23

ABSTRACT:

The invention relates to compositions, kits, and methods for detecting, characterizing, preventing, and treating human breast cancers. A variety of newly identified markers are provided, wherein changes in the levels of expression of one or more of the markers is correlated with the presence of breast cancer.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 39. Document ID: US 20030215884 A1

L14: Entry 39 of 116

File: PGPB

Nov 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030215884

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030215884 A1

TITLE: Method of regenerating neurons

PUBLICATION-DATE: November 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Hunt, Stephen P.	London		GB	
Robinson, Michelle	London		GB	
Livesey, Frederick	Cambridge		GB	

US-CL-CURRENT: 435/7.2; 514/12

ABSTRACT:

The invention relates to a method of regenerating neurons comprising administering to a subject in need thereof FLRT-3 to cause neuronal regeneration.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 40. Document ID: US 20030215868 A1

L14: Entry 40 of 116

File: PGPB

Nov 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030215868

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030215868 A1

TITLE: Method of detecting schizophrenia risk

PUBLICATION-DATE: November 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Seeman, Philip	Toronto		CA	
Novak, Gabriela	Mississauga		CA	
Tallerico, Teresa	Toronto		CA	

US-CL-CURRENT: 435/6; 435/91.2

ABSTRACT:

Methods and kits for determining susceptibility of a patient to neuropsychiatric disorders are described. The method involves analyzing a sample comprising nucleic acids from a patient for a polymorphism of the Nogo gene.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 41. Document ID: US 20030203870 A1

L14: Entry 41 of 116

File: PGPB

Oct 30, 2003

PGPUB-DOCUMENT-NUMBER: 20030203870

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030203870 A1

TITLE: Method and reagent for the inhibition of NOGO and NOGO receptor genes

PUBLICATION-DATE: October 30, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Blatt, Lawrence	San Francisco	CA	US	
McSwiggen, James	Boulder	CO	US	
Chowrira, Bharat M.	Louisville	CO	US	
Haeberli, Peter	Berthoud	CO	US	

US-CL-CURRENT: 514/44; 536/23.2, 536/23.5

ABSTRACT:

The present invention relates to nucleic acid molecules, including antisense and

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.15&ref=14&dbname=PGPB,USPT,U...> 9/30/04

enzymatic nucleic acid molecules, such as hammerhead ribozymes, DNazymes, and antisense, which modulate the expression of NOGO and NOGO receptor genes.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 42. Document ID: US 20030186267 A1

L14: Entry 42 of 116

File: PGPB

Oct 2, 2003

PGPUB-DOCUMENT-NUMBER: 20030186267

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030186267 A1

TITLE: Novel human leucine-rich repeat domain containing protein, HLLRCR-1

PUBLICATION-DATE: October 2, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Feder, John N.	Belle Mead	NJ	US	
Ramanathan, Chandra S.	Wallingford	CT	US	
Mintier, Gabriel	Hightstown	NJ	US	

US-CL-CURRENT: 435/6; 435/320.1, 435/325, 435/69.1, 514/12, 530/350, 536/23.5

ABSTRACT:

The present invention provides novel polynucleotides encoding HLLRCR-1 polypeptides, fragments and homologues thereof. Also provided are vectors, host cells, antibodies, and recombinant and synthetic methods for producing said polypeptides. The invention further relates to diagnostic and therapeutic methods for applying these novel HLLRCR-1 polypeptides to the diagnosis, treatment, and/or prevention of various diseases and/or disorders related to these polypeptides, particularly nervous system diseases and/or disorders. The invention further relates to screening methods for identifying agonists and antagonists of the polynucleotides and polypeptides of the present invention.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 43. Document ID: US 20030176424 A1

L14: Entry 43 of 116

File: PGPB

Sep 18, 2003

PGPUB-DOCUMENT-NUMBER: 20030176424

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030176424 A1

TITLE: Axon regeneration with PKC inhibitors

PUBLICATION-DATE: September 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
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He, Zhigang	Boston	MA	US
Koprivica, Vuk	Boston	MA	US
Sivasankaran, Rajeev	Boston	MA	US

US-CL-CURRENT: 514/225.8; 514/253.05, 514/560

ABSTRACT:

Regenerative growth of an adult mammalian central nervous system neuron axon subject to growth inhibition by endogenous, myelin growth repulsion factors is promoted by delivering to the axon a therapeutically effective amount of a specific inhibitor of protein kinase C, whereby regenerative growth of the axon is promoted and a resultant promotion of the regenerative growth of the axon is detected.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 44. Document ID: US 20030176423 A1

L14: Entry 44 of 116

File: PGPB

Sep 18, 2003

PGPUB-DOCUMENT-NUMBER: 20030176423

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030176423 A1

TITLE: AXON REGENERATION WITH PKC INHIBITIORS

PUBLICATION-DATE: September 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
He, Zhigang	Boston	MA	US	
Koprivica, Vuk	Boston	MA	US	
Sivasankaran, Rajeev	Boston	MA	US	

US-CL-CURRENT: 514/225.8; 514/253.05, 514/560

ABSTRACT:

Regenerative growth of an adult mammalian central nervous system neuron axon subject to growth inhibition by endogenous, myelin growth repulsion factors is promoted by delivering to the axon a therapeutically effective amount of a specific inhibitor of protein kinase C, whereby regenerative growth of the axon is promoted and a resultant promotion of the regenerative growth of the axon is detected.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 45. Document ID: US 20030166711 A1

L14: Entry 45 of 116

File: PGPB

Sep 4, 2003

PGPUB-DOCUMENT-NUMBER: 20030166711

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030166711 A1

TITLE: Nerve regeneration promoters containing semaphorin inhibitor as the active ingredient

PUBLICATION-DATE: September 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kimura, Toru	Shiga		JP	
Kikuchi, Kaoru	Hyogo		JP	
Kumagai, Kazuo	Hyogo		JP	
Hosotani, Nobuo	Hyogo		JP	
Kishino, Akiyoshi	Osaka		JP	

US-CL-CURRENT: 514/455; 435/125, 435/254.5, 530/350, 549/392

ABSTRACT:

To provide a semaphorin inhibitor; a peripheral or central nerve regeneration promoter which contains said semaphorin inhibitor as an active ingredient; and a preventive or remedy for a neuropathic disease and a neurodegenerative disease containing said nerve regeneration promoter, or the like.

A low-molecular weight compound, which acts at a concentration of 10 .mu.g/ml or below to inhibit the growth cone collapse activity of semaphorin such as semaphorin 3A, semaphorin 6C or the like and/or the nerve outgrowth inhibitory activity of semaphorin in a collagen gel and which does not substantially affect cell proliferation, is obtained from the culture of strain SPF-3059 belonging to the genus *Penicillium*. The low-molecular weight compound with the semaphorin inhibitory activity thus obtained exhibits the in vivo nerve-regeneration promoting action.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. Des.
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☐ 46. Document ID: US 20030148983 A1

L14: Entry 46 of 116

File: PGPB

Aug 7, 2003

PGPUB-DOCUMENT-NUMBER: 20030148983

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030148983 A1

TITLE: Polynucleotide therapy

PUBLICATION-DATE: August 7, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Fontoura, Paulo	Mountain View	CA	US	
Garren, Hideki	Palo Alto	CA	US	
Robinson, William H.	Menlo Park	CA	US	
Steinman, Lawrence	Stanford	CA	US	
Ruiz, Pedro Jose	Redwood City	CA	US	
Utz, Paul J.	Portola Valley	CA	US	

ABSTRACT:

This invention provides a method of treating or preventing a disease in an animal associated with one or more self-protein(s), -polypeptide(s), or -peptide(s) that is present or involved in a non-physiologic process in the animal comprising administering to the animal a self-vector comprising a polynucleotide encoding the self-protein(s), -polypeptide(s) or -peptide(s) associated with the disease. Administration of the self-vector comprising a polynucleotide encoding the self-protein(s), -polypeptide(s) or -peptide(s) modulates an immune response to the self-protein(s), -polypeptide(s) or -peptide(s) expressed from administration of the self-vector. The invention also provides a composition comprising a polynucleotide encoding one or more self-protein(s), -polypeptide(s), or -peptide(s) that is present non-physiologically in a treated animal useful in treating or preventing a disease associated with the self-protein(s), -polypeptide(s), or -peptide(s) present in and/or the target of a non-physiologic process in the animal.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Des
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☐ 47. Document ID: US 20030134414 A1

L14: Entry 47 of 116

File: PGPB

Jul 17, 2003

PGPUB-DOCUMENT-NUMBER: 20030134414

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030134414 A1

TITLE: Nerve growth assistance improvement

PUBLICATION-DATE: July 17, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Ferguson, Ian Andrew	Bedford Park		AU	

US-CL-CURRENT: 435/368; 435/404

ABSTRACT:

Material and method for promoting the re-growth of the CNS in mammals, including humans. This involves ligating a peripheral nerve, then excising the resulting material distal to the point of ligation (6) after a substantial delay. The nerve material (7), which is rich in vivo activated glial cells, is then finely minced (5) and in combination with a support matrix, and/or other nerve growth promoting materials (3), inserted into the spinal cord injury cavity (2) via syringe (4) so as to promote growth of the corticospinal tract axons (8) in the CNS (1).

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Des
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☐ 48. Document ID: US 20030124704 A1

L14: Entry 48 of 116

File: PGPB

Jul 3, 2003

PGPUB-DOCUMENT-NUMBER: 20030124704
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030124704 A1

TITLE: Nogo receptor homologs

PUBLICATION-DATE: July 3, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Strittmatter, Stephen M.	Guilford	CT	US	
Cate, Richard L.	Cohasset	MA	US	
Sah, Dinah W. Y.	Boston	MA	US	

US-CL-CURRENT: 435/226; 424/146.1, 435/320.1, 435/325, 435/69.1, 530/388.26, 536/23.2

ABSTRACT:

The invention relates generally to genes that encode proteins that inhibit axonal growth. The invention relates specifically to genes encoding NgR protein homologs in humans and mice. The invention also includes compositions and methods for modulating the expression and activity of Nogo and the NgR proteins. Specifically, the invention includes peptides, proteins and antibodies that block Nogo-mediated inhibition of axonal extension. The compositions and methods of the invention are useful in the treatment of cranial or cerebral trauma, spinal cord injury, stroke or a demyelinating disease.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 49. Document ID: US 20030113891 A1

L14: Entry 49 of 116

File: PGPB

Jun 19, 2003

PGPUB-DOCUMENT-NUMBER: 20030113891
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030113891 A1

TITLE: Method and reagent for the inhibition of NOGO and NOGO receptor genes

PUBLICATION-DATE: June 19, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Blatt, Lawrence	Boulder	CO	US	
McSwiggen, James	Boulder	CO	US	
Chowrira, Bharat	Broomfield	CO	US	

US-CL-CURRENT: 435/184; 514/44, 536/23.1

ABSTRACT:

The present invention relates to nucleic acid molecules, including antisense and enzymatic nucleic acid molecules, such as hammerhead ribozymes, DNazymes, and antisense, which modulate the expression of NOGO and NOGO receptor genes.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 50. Document ID: US 20030113326 A1

L14: Entry 50 of 116

File: PGPB

Jun 19, 2003

PGPUB-DOCUMENT-NUMBER: 20030113326

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030113326 A1

TITLE: Reducing myelin-mediated inhibition of axon regeneration

PUBLICATION-DATE: June 19, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
He, Zhigang	Boston	MA	US	
Wang, Kevin C.	Boston	MA	US	
Koprivica, Vuk	Boston	MA	US	
Kim, Jieun A.	Boston	MA	US	

US-CL-CURRENT: 424/146.1; 435/7.2

ABSTRACT:

Oligodendrocyte-myelin glycoprotein (OMgp)-specific binding agents are used to reduce OMgp-mediated axon growth inhibition. Mixtures of axons and OMgp and mixtures of Nogo receptor (NgR) and OMgp are used in pharmaceutical screens to characterize agents as inhibiting binding of NgR to OMgp and promoting axon regeneration.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 51. Document ID: US 20030113325 A1

L14: Entry 51 of 116

File: PGPB

Jun 19, 2003

PGPUB-DOCUMENT-NUMBER: 20030113325

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030113325 A1

TITLE: Reducing myelin-mediated inhibition of axon regeneration

PUBLICATION-DATE: June 19, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
He, Zhigang	Boston	MA	US	
Wang, Kevin C.	Boston	MA	US	
Koprivica, Vuk	Boston	MA	US	
Kim, Jieun A.	Boston	MA	US	

US-CL-CURRENT: 424/146.1; 435/7.2

ABSTRACT:

Oligodendrocyte-myelin glycoprotein (OMgp)-specific binding agents are used to reduce OMgp-mediated axon growth inhibition. Mixtures of axons and OMgp and mixtures of Nogo receptor (NgR) and OMgp are used in pharmaceutical screens to characterize agents as inhibiting binding of NgR to OMgp and promoting axon regeneration.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 52. Document ID: US 20030072758 A1

L14: Entry 52 of 116

File: PGPB

Apr 17, 2003

PGPUB-DOCUMENT-NUMBER: 20030072758

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030072758 A1

TITLE: BMPRI1A involvement in juvenile polyposis

PUBLICATION-DATE: April 17, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Howe, James R.	Iowa City	IA	US	

US-CL-CURRENT: 424/155.1; 435/6, 435/7.23

ABSTRACT:

Familial juvenile polyposis is an autosomal dominant disease characterized by a predisposition to hamartomatous polyps and gastrointestinal cancer. The present invention shows that JP families carry germline mutations in BMPRI1A, a gene located at 10q22-23. Methods and compositions for the detection and amelioration of FJP and gastrointestinal tumors are provided.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 53. Document ID: US 20030060611 A1

L14: Entry 53 of 116

File: PGPB

Mar 27, 2003

PGPUB-DOCUMENT-NUMBER: 20030060611

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030060611 A1

TITLE: Method and reagent for the inhibition of NOGO gene

PUBLICATION-DATE: March 27, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
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Blatt, Lawrence	Boulder	CO	US
McSwiggen, James	Boulder	CO	US
Chowrira, Bharat M.	Broomfield	CO	US
Haeberli, Peter	Berthoud	CO	US

US-CL-CURRENT: 536/23.1; 424/184.1

ABSTRACT:

The present invention relates to nucleic acid molecules, including antisense and enzymatic nucleic acid molecules, such as hammerhead ribozymes, DNazymes, and antisense, which modulate the expression of NOGO gene.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw Des
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☐ 54. Document ID: US 20030049839 A1

L14: Entry 54 of 116

File: PGPB

Mar 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030049839

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030049839 A1

TITLE: Transparent multi-channel cell scaffold that creates a cellular and/or molecular gradient

PUBLICATION-DATE: March 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Romero-Ortega, Mario I.	Carrollton	TX	US	
Delgado-Ayala, Mauricio R.	Dallas	TX	US	
J. Galvan, Pedro	Mission	TX	US	
Liu, Hua	Richardson	TX	US	

US-CL-CURRENT: 435/397; 435/303.1

ABSTRACT:

A cell growth scaffold provides individual cell growth channels in a transparent body for microscopic observation of cells during growth.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMIC	Draw Des
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☐ 55. Document ID: US 20030049254 A1

L14: Entry 55 of 116

File: PGPB

Mar 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030049254

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030049254 A1

TITLE: Modulating neuronal outgrowth via the major histocompatibility complex Class I (MHC I) molecule

PUBLICATION-DATE: March 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kaufman, Daniel L.	Los Angeles	CA	US	
Hanssen, Lorraine	Los Angeles	CA	US	
Zekzer, Dan	Encinitas	CA	US	

US-CL-CURRENT: 424/144.1; 435/366

ABSTRACT:

The invention relates to methods and compositions for treating neural damage caused by injury or disease, by enhancing neural outgrowth and/or repair responses in the nervous system. Preferably, the methods and compositions utilize agents which interfere with the ability of the major histocompatibility complex (MHC) Class I molecule (MHC I) to inhibit neurite outgrowth. Such agents include antibodies directed to MHC I, MHC I fragments and/or analogs, and agents which interfere with MHC I interaction with its neuronal receptor and the receptor's signaling pathway.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	MMMC	Draw. Des.
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☐ 56. Document ID: US 20030032946 A1

L14: Entry 56 of 116

File: PGPB

Feb 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030032946

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030032946 A1

TITLE: Artificial synapse chip interface for electronic prosthetic retina

PUBLICATION-DATE: February 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Fishman, Harvey A.	Menlo Park	CA	US	
Blumenkranz, Mark	Portola Valley	CA	US	
Bent, Stacey F.	Palo Alto	CA	US	
Bloom, David M.	Wilson	WY	US	
Peterman, Mark C.	Stanford	CA	US	
Ziebarth, Jonathan M.	Mountain View	CA	US	
Lee, Christina	San Francisco	CA	US	
Leng, Theodore	Mountain View	CA	US	

US-CL-CURRENT: 604/890.1; 435/289.1

ABSTRACT:

The invention provides microfabricated devices and methods for directing the growth

of a cell process to form an artificial synapse. The devices are called artificial synapse chips. The artificial synapse comprises a nanofabricated aperture (about 50-100 nm in size) that connects the cell process to a chemical or electrical means of neuronal excitation. Such an aperture width mimics the length scales of a natural synapse and thus emphasizes the localized spatial relationship between a neuron and a stimulation source. The invention further provides devices and methods for regenerating a nerve fiber into an electrode. The invention thus provides a regeneration electrode that uses a novel neural interface for stimulation and that uses novel surface methods for directing neuronal growth making possible in vivo connection of the devices to neural circuitry in a retina and other anatomical locations.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. Des.
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☐ 57. Document ID: US 20020148128 A1

L14: Entry 57 of 116

File: PGPB

Oct 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020148128
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020148128 A1

TITLE: Intrinsic gauging for tube fittings

PUBLICATION-DATE: October 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Williams, Peter C.	Cleveland Heights	OH	US	
Johnston, Lonnie E.	Aurora	OH	US	
Karkosiak, John D.	Broadview Heights	OH	US	
Babuder, Gerald A.	Mentor	OH	US	
Moghe, Sanjeev S.	Northfield Center	OH	US	

US-CL-CURRENT: 33/501.45

ABSTRACT:

An intrinsic gauging device for a ferrule type tube fitting of the type having a coupling nut, a coupling body and at least one ferrule, includes a precisely formed marking on the coupling body that is visually perceptible when the coupling is in a finger tight position, and that is covered or visually imperceptible or otherwise has a predetermined relationship with the coupling nut when the fitting has been initially pulled-up. In a preferred form, the marking is realized as a precision groove or recess machined into a surface of the coupling body. The groove can be made more easily visually perceptible such as by roughening or knurling the surface, or coloring the surface, for example. The groove defines an edge at a precise position that corresponds to a predetermined axial displacement of the nut relative to the body for initial pull-up. The marking may also be formed with a precise dimension such as an axial length to provide a second edge that corresponds to a predetermined axial displacement of the nut relative to the body beyond initial pull-up for fitting assemblies that are remade.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. Des.
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☐ 58. Document ID: US 20020082519 A1

L14: Entry 58 of 116

File: PGPB

Jun 27, 2002

PGPUB-DOCUMENT-NUMBER: 20020082519
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020082519 A1

TITLE: Biopsy apparatus

PUBLICATION-DATE: June 27, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Miller, Michael E.	Trafalgar	IN	US	
Mark, Joseph L.	Indianapolis	IN	US	
Butcher, Charles	Carmel	IN	US	
Hancock, John Phillip	Fishers	IN	US	

US-CL-CURRENT: 600/566

ABSTRACT:

A disposable tissue removal device comprises a "tube within a tube" cutting element mounted to a handpiece. The inner cannula of the cutting element defines an inner lumen and terminates in an inwardly beveled, razor-sharp cutting edge. The inner cannula is driven by both a rotary motor and a reciprocating motor. At the end of its stroke, the inner cannula makes contact with the cutting board to completely sever the tissue. An aspiration vacuum is applied to the inner lumen to aspirate excised tissue through the inner cannula and into a collection trap that is removably mounted to the handpiece. The rotary and reciprocating motors are hydraulically powered through a foot pedal operated hydraulic circuit. The entire biopsy device is configured to be disposable. In one embodiment, the cutting element includes a cannula hub that can be connected to a fluid source, such as a valve-controlled saline bag.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Des
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☐ 59. Document ID: US 20020080023 A1

L14: Entry 59 of 116

File: PGPB

Jun 27, 2002

PGPUB-DOCUMENT-NUMBER: 20020080023
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020080023 A1

TITLE: Recognition/anti-collision light for aircraft

PUBLICATION-DATE: June 27, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
DeMarco, Ralph Anthony	Palm Harbor	FL	US	
Draves, Raymond Henry	Safety Harbor	FL	US	

Kielbon, Timothy Scott	Lutz	FL	US
Knight, Todd Christopher	Tampa	FL	US
Patel, Anish Vikram	Odessa	FL	US
Stephens, Merle Keith	St. Petersburg	FL	US

US-CL-CURRENT: 340/463; 340/468

ABSTRACT:

A recognition light includes a reflector having an axis and first and second annular semi-parabolic reflective surfaces which have respective focal points axially spaced apart from one another, and first and second annular lamps respectively disposed at the focal points. A cover surrounds the reflector and lamps and includes a lens for focusing the light along a plane perpendicular to the axis of the reflector, the lens including first and second Fresnel lens portions each including a convex lens and a prism lens, the convex lenses being disposed adjacent one another and transaxially aligned with the first and second lamps, respectively. A light detector detects light emitted from at least one of the lamps, a monitor circuit provides a fail signal when a characteristic of the light output of at least one of the lamps does not satisfy a specified criteria, and a control circuit first activates the first lamp and then the second lamp in response to receipt of the fail signal of the monitor circuit.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 60. Document ID: US 20020077295 A1

L14: Entry 60 of 116

File: PGPB

Jun 20, 2002

PGPUB-DOCUMENT-NUMBER: 20020077295

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020077295 A1

TITLE: Nogo receptor-mediated blockade of axonal growth

PUBLICATION-DATE: June 20, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Strittmatter, Stephen M.	Clinton	CT	US	

US-CL-CURRENT: 514/12; 435/183, 435/320.1, 435/325, 536/23.2

ABSTRACT:

Disclosed are NgR proteins and biologically active Nogo (ligand) protein fragments. Also disclosed are compositions and methods for modulating the expression or activity of the Nogo and NgR protein. Also disclosed are peptides which block Nogo-mediated inhibition of axonal extension. The compositions and methods of the invention are useful in the treatment of cranial or cerebral trauma, spinal cord injury, stroke or a demyelinating disease.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 61. Document ID: US 20020072493 A1

L14: Entry 61 of 116

File: PGPB

Jun 13, 2002

PGPUB-DOCUMENT-NUMBER: 20020072493
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020072493 A1

TITLE: Activated T cells, nervous system-specific antigens and their uses

PUBLICATION-DATE: June 13, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Eisenbach-Schwartz, Michal	Rehovot		IL	
Hauben, Ehud	Rehovot		IL	
Cohen, Irun R.	Rehovot		IL	
Beserman, Pierre	Kibbutz Chafeiz Chairn		IL	
Mosonego, Alon	Rehovot		IL	
Moalem, Gila	Pitah-Tiyra		IL	

US-CL-CURRENT: 514/12; 424/93.7

ABSTRACT:

Compositions and methods to promote nerve regeneration or to confer neuroprotection and prevent or inhibit neuronal degeneration within the nervous system, either the central nervous system or the peripheral nervous system, are provided. Treatment involves administering NS-specific activated T cells, or an NS-specific antigen or analog thereof, a peptide derived therefrom or an analog or derivative of said peptide, or a nucleotide sequence encoding said antigen or peptide, or any combination thereof.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Des
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☐ 62. Document ID: US 20020012965 A1

L14: Entry 62 of 116

File: PGPB

Jan 31, 2002

PGPUB-DOCUMENT-NUMBER: 20020012965
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020012965 A1

TITLE: Nogo receptor-mediated blockade of axonal growth

PUBLICATION-DATE: January 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Strittmatter, Stephen M.	Clinton	CT	US	

US-CL-CURRENT: 435/69.1; 435/325, 435/4, 435/7.21, 530/350, 530/388.22, 536/23.5

ABSTRACT:

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.15&ref=14&dbname=PGPB,USPT,U...> 9/30/04

Disclosed are Nogo receptor proteins and biologically active Nogo (ligand) protein fragments. Also disclosed are compositions and methods for modulating the expression or activity of the Nogo and Nogo receptor protein. Also disclosed are peptides which block Nogo-mediated inhibition of axonal extension. The compositions and methods of the invention are useful in the treatment of cranial or cerebral trauma, spinal cord injury, stroke or a demyelinating disease.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 63. Document ID: US 6774216 B2

L14: Entry 63 of 116

File: USPT

Aug 10, 2004

US-PAT-NO: 6774216

DOCUMENT-IDENTIFIER: US 6774216 B2

TITLE: Antibodies to secreted protein HCEJQ69

DATE-ISSUED: August 10, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruben; Steven M.	Olney	MD		
Rosen; Craig A.	Laytonsville	MD		
LaFleur; David W.	Washington	DC		

US-CL-CURRENT: 530/387.9; 430/320, 530/387.1, 530/387.7, 530/388.1, 530/388.15, 536/23.5

ABSTRACT:

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human secreted proteins.

78 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Des
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☐ 64. Document ID: US 6758824 B1

L14: Entry 64 of 116

File: USPT

Jul 6, 2004

US-PAT-NO: 6758824

DOCUMENT-IDENTIFIER: US 6758824 B1

TITLE: Biopsy apparatus

DATE-ISSUED: July 6, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Miller; Michael E.	Trafalgar	IN		
Mark; Joseph L.	Indianapolis	IN		
Butcher; Charles	Carmel	IN		
Hancock; John P.	Fishers	IN		

US-CL-CURRENT: 600/568; 600/566, 600/567, 606/167, 606/170

ABSTRACT:

A tissue cutting device is provided that includes an outer cannula defining an outer lumen and a tissue-receiving opening adjacent a distal end of the outer cannula in communication with the outer lumen. An inner cannula is slidably disposed within the outer lumen and defines an inner lumen from an open distal end to an open opposite proximal end. The inner cannula includes a cutting edge at the open distal end operable to sever tissue projecting through the tissue receiving opening. A first hydraulic rotary motor is operably coupled to the inner cannula to rotate the inner cannula within the outer cannula. A second hydraulic reciprocating motor is operably coupled to the inner cannula to translate the inner cannula within the outer cannula while the inner cannula rotates. A hydraulic system provides the first and second hydraulic motors in communication with a source of pressurized fluid.

37 Claims, 13 Drawing figures
 Exemplary Claim Number: 1
 Number of Drawing Sheets: 6

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMMC	Draw Des
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☐ 65. Document ID: US 6755530 B1

L14: Entry 65 of 116

File: USPT

Jun 29, 2004

US-PAT-NO: 6755530

DOCUMENT-IDENTIFIER: US 6755530 B1

TITLE: Retinal light processing using carbon nanotubes

DATE-ISSUED: June 29, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Loftus; David J.	Palo Alto	CA		
Leng; Theodore	Mountain View	CA		
Fishman; Harvey	Menlo Park	CA		

US-CL-CURRENT: 351/246; 351/200, 607/53, 607/54, 623/4.1, 623/6.63

ABSTRACT:

Method and system for processing light signals received by the eye of a human or other animal, where the eye may be compromised or non-functioning. Incident light is received at first and second pixels in a photodetector array and provides a pixel electrical signal representing the received light. Each of an array of carbon nanotube (CNT) towers is connected to a pixel, has a first tower end penetrating a

retinal active layer of the animal and has a second tower end positioned to receive to receive and transport the pixel electrical signal to the retinal active layer. The CNT tower may be coated with a biologically active substance or chemically modified to promote neurite connections with the tower. The photoreceptor array can be provide with a signal altering mechanism that alters at least one of light intensity and wavelength intensity sensed by a first pixel relative to a second pixel, to correct for one or more selected eye problems.

34 Claims, 12 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 8

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMMC	Draw. Des.
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☐ 66. Document ID: US 6664266 B2

L14: Entry 66 of 116

File: USPT

Dec 16, 2003

US-PAT-NO: 6664266
DOCUMENT-IDENTIFIER: US 6664266 B2

TITLE: Axon regeneration with PKC inhibitors

DATE-ISSUED: December 16, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
He; Zhigang	Boston	MA		
Koprivica; Vuk	Boston	MA		
Sivasankaran; Rajeev	Boston	MA		

US-CL-CURRENT: 514/294; 514/410, 514/415

ABSTRACT:

Regenerative growth of an adult mammalian central nervous system neuron axon subject to growth inhibition by endogenous, myelin growth repulsion factors is promoted by delivering to the axon a therapeutically effective amount of a specific inhibitor of protein kinase C, whereby regenerative growth of the axon is promoted and a resultant promotion of the regenerative growth of the axon is detected.

9 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMMC	Draw. Des.
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☐ 67. Document ID: US 6642856 B2

L14: Entry 67 of 116

File: USPT

Nov 4, 2003

US-PAT-NO: 6642856
DOCUMENT-IDENTIFIER: US 6642856 B2

TITLE: Recognition/anti-collision light for aircraft

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.15&ref=14&dbname=PGPB,USPT,U...> 9/30/04

DATE-ISSUED: November 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
DeMarco; Ralph Anthony	Palm Harbor	FL		
Draves; Raymond Henry	Safety Harbor	FL		
Kielbon; Timothy Scott	Lutz	FL		
Knight; Todd Christopher	Tampa	FL		
Patel; Anish Vikram	Odessa	FL		
Stephens; Merle Keith	St. Petersburg	FL		

US-CL-CURRENT: 340/981; 250/205, 315/149, 340/458

ABSTRACT:

A recognition light includes a reflector having an axis and first and second annular semi-parabolic reflective surfaces which have respective focal points axially spaced apart from one another, and first and second annular lamps respectively disposed at the focal points. A cover surrounds the reflector and lamps and includes a lens for focusing the light along a plane perpendicular to the axis of the reflector, the lens including first and second Fresnel lens portions each including a convex lens and a prism lens, the convex lenses being disposed adjacent one another and transaxially aligned with the first and second lamps, respectively. A light detector detects light emitted from at least one of the lamps, a monitor circuit provides a fail signal when a characteristic of the light output of at least one of the lamps does not satisfy a specified criteria, and a control circuit first activates the first lamp and then the second lamp in response to receipt of the fail signal of the monitor circuit.

9 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	FIGS	Draw. Des.
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☐ 68. Document ID: US 6638235 B2

L14: Entry 68 of 116

File: USPT

Oct 28, 2003

US-PAT-NO: 6638235

DOCUMENT-IDENTIFIER: US 6638235 B2

TITLE: Biopsy apparatus

DATE-ISSUED: October 28, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Miller; Michael E.	Trafalgar	IN		
Mark; Joseph L.	Indianapolis	IN		
Hancock; John P.	Fishers	IN		
Butcher; Charles	Carmel	IN		

US-CL-CURRENT: 600/566; 600/564, 600/567, 606/167

ABSTRACT:

A disposable tissue removal device comprises a "tube within a tube" cutting element mounted to a handpiece. The inner cannula of the cutting element defines an inner lumen and terminates in an inwardly beveled, razor-sharp cutting edge. The inner cannula is driven by both a rotary motor and a reciprocating motor. At the end of its stroke, the inner cannula makes contact with the cutting board to completely sever the tissue. An aspiration vacuum is applied to the inner lumen to aspirate excised tissue through the inner cannula and into a collection trap that is removably mounted to the handpiece. The rotary and reciprocating motors are hydraulically powered through a foot pedal operated hydraulic circuit. The entire biopsy device is configured to be disposable. In one embodiment, the cutting element includes a cannula hub that can be connected to a fluid source, such as a valve-controlled saline bag.

10 Claims, 26 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 9

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Des
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☐ 69. Document ID: US 6627741 B2

L14: Entry 69 of 116

File: USPT

Sep 30, 2003

US-PAT-NO: 6627741

DOCUMENT-IDENTIFIER: US 6627741 B2

TITLE: Antibodies to secreted protein HCEJQ69

DATE-ISSUED: September 30, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruben; Steven M.	Olney	MD		
Ni; Jian	Germantown	MD		
Rosen; Craig A.	Laytonsville	MD		
Wei; Ying-Fei	Berkeley	CA		
Young; Paul	Gaithersburg	MD		
Florence; Kimberly	Rockville	MD		
Soppet; Daniel R.	Centreville	VA		
Brewer; Laurie A.	St. Paul	MN		
Endress; Gregory A.	Florence	MA		
Carter; Kenneth C.	North Potomac	MD		
Mucenski; Michael	Cincinnati	OH		
Ebner; Reinhard	Gaithersburg	MD		
LaFleur; David W.	Washington	DC		
Olsen; Henrik	Gaithersburg	MD		
Shi; Yanggu	Gaithersburg	MD		
Moore; Paul A.	Germantown	MD		
Komatsoulis; George	Silver Spring	MD		

US-CL-CURRENT: 530/389.2; 530/387.1, 530/387.3, 530/387.7, 530/387.9, 530/388.1,
530/388.15, 530/389.1

ABSTRACT:

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human secreted proteins.

52 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Des.
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☐ 70. Document ID: US 6548061 B1

L14: Entry 70 of 116

File: USPT

Apr 15, 2003

US-PAT-NO: 6548061

DOCUMENT-IDENTIFIER: US 6548061 B1

TITLE: Immunological composition and its method of use to transiently disrupt mammalian central nervous system myelin to promote neuronal regeneration

DATE-ISSUED: April 15, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Steeves; John D.	N. Vancouver			CA
Dyer; Jason K.	N. Van			CA
Keirstead; Hans S.	Vancouver			CA

US-CL-CURRENT: 424/130.1; 424/141.1, 424/172.1

ABSTRACT:

Novel compositions are described comprising the combined administration of serum complement proteins with complement-fixing antibodies. The antibodies specifically bind to one or more epitopes of myelin, and complement proteins. These compositions are useful for promoting regrowth, repair, and regeneration of neurons in the CNS of a mammalian subject. The compositions and method can be used following immediate or chronic injury.

17 Claims, 10 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 9

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Des.
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☐ 71. Document ID: US 6475753 B1

L14: Entry 71 of 116

File: USPT

Nov 5, 2002

US-PAT-NO: 6475753

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.15&ref=14&dbname=PGPB,USPT,U...> 9/30/04

DOCUMENT-IDENTIFIER: US 6475753 B1

TITLE: 94 Human Secreted Proteins

DATE-ISSUED: November 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruben; Steven M.	Olney	MD		
Ni; Jian	Rockville	MD		
Rosen; Craig A.	Laytonsville	MD		
Wei; Ying-Fei	Berkeley	CA		
Young; Paul	Gaithersburg	MD		
Florence; Kimberly	Rockville	MD		
Soppet; Daniel R.	Centreville	VA		
Brewer; Laurie A.	St. Paul	MN		
Endress; Gregory A.	Potomac	MD		
Carter; Kenneth C.	Potomac	MD		
Mucenski; Michael	Cincinnati	OH		
Ebner; Reinhard	Gaithersburg	MD		
Lafleur; David W.	Washington	DC		
Olsen; Henrik	Gaithersburg	MD		
Shi; Yanggu	Gaithersburg	MD		
Moore; Paul A.	Germantown	MD		
Komatsoulis; George	Silver Spring	MD		

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 435/325, 435/471, 435/69.4, 435/71.1,
530/350, 536/23.5

ABSTRACT:

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human secreted proteins.

37 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Des
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☐ 72. Document ID: US 6423491 B1

L14: Entry 72 of 116

File: USPT

Jul 23, 2002

US-PAT-NO: 6423491

DOCUMENT-IDENTIFIER: US 6423491 B1

**** See image for Certificate of Correction ****

TITLE: Method of diagnosing juvenile polyposis (JP)

DATE-ISSUED: July 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Howe; James R.	Iowa City	IA		
Aaltonen; Lauri A.	Espoo			FI

US-CL-CURRENT: 435/6; 435/4, 435/7.1, 435/7.21, 435/7.23, 435/7.92, 435/7.95, 436/63, 436/64

ABSTRACT:

Familial juvenile polyposis is an autosomal dominant disease characterized by a predisposition to hamartomatous polyps and gastrointestinal cancer. The present invention shows that JP families carry germline mutations in SMAD4/DPC4, a gene on chromosome 18q21.1. The mutant SMAD4 proteins are truncated at the carboxyl-terminus and lack sequences required for normal function. Methods and compositions for the detection and amelioration of FJP and gastrointestinal tumors are provided.

30 Claims, 8 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 5

Full	Title	Citation	Front	Review	Classification	Date	Reference				Claims	KWC	Draw Des
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☐ 73. Document ID: US 6278382 B1

L14: Entry 73 of 116

File: USPT

Aug 21, 2001

US-PAT-NO: 6278382

DOCUMENT-IDENTIFIER: US 6278382 B1

TITLE: Recognition/anti-collision light for aircraft

DATE-ISSUED: August 21, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
DeMarco; Ralph Anthony	Palm Harbor	FL	34685	
Draves; Raymond Henry	Safety Harbor	FL	34695	
Kielbon; Timothy Scott	Lutz	FL	33549	
Knight; Todd Christopher	Tampa	FL	33635	
Patel; Anish Vikram	Odessa	FL	33556	
Stephens; Merle Keith	St. Petersburg	FL	33716	

US-CL-CURRENT: 340/981; 315/65, 315/88, 340/458, 362/240, 362/470

ABSTRACT:

A recognition light includes a reflector having an axis and first and second annular semi-parabolic reflective surfaces which have respective focal points axially spaced apart from one another, and first and second annular lamps respectively disposed at the focal points. A cover surrounds the reflector and lamps and includes a lens for focusing the light along a plane perpendicular to the axis of the reflector, the lens including first and second Fresnel lens portions each including a convex lens and a

prism lens, the convex lenses being disposed adjacent one another and transaxially aligned with the first and second lamps, respectively. A light detector detects light emitted from at least one of the lamps, a monitor circuit provides a fail signal when a characteristic of the light output of at least one of the lamps does not satisfy a specified criteria, and a control circuit first activates the first lamp and then the second lamp in response to receipt of the fail signal of the monitor circuit.

5 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMMC	Draw Des
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☐ 74. Document ID: US 6233361 B1

L14: Entry 74 of 116

File: USPT

May 15, 2001

US-PAT-NO: 6233361
DOCUMENT-IDENTIFIER: US 6233361 B1

TITLE: Topography processor system

DATE-ISSUED: May 15, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Downs; Roger Colston	Camberley, Surrey	GU15	2NZ	GB

US-CL-CURRENT: 382/260; 714/25, 714/46, 714/732, 714/736

ABSTRACT:

A topography processor system comprising a phased image sensor array, at least one processor arranged to perform range decompression of imaged detail, and a means for allowing non interruptive graphic macro diagnosis based on a graphic display of the frame rate macroscopic behavior of internal transfer functions of the system figures 15, 17 permit visual, augmented visual or automatic visual determination of the system's integrity.

60 Claims, 38 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 38

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMMC	Draw Des
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☐ 75. Document ID: US 6108656 A

L14: Entry 75 of 116

File: USPT

Aug 22, 2000

US-PAT-NO: 6108656
DOCUMENT-IDENTIFIER: US 6108656 A

TITLE: Automatic access of electronic information through machine-readable codes on printed documents

DATE-ISSUED: August 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Durst; Robert T.	Fort Myers	FL		
Hunter; Kevin	Fort Myers	FL		

US-CL-CURRENT: 707/10; 707/3, 707/9

ABSTRACT:

The present invention is a system and method for providing automated access to electronic information stored in a database in either a local or remote location. The system utilizes a machine-readable code printed on a document, referred to herein as an intelligent document since it stores information used to automatically access the information. The machine-readable symbol comprises encoded source data, wherein the source data comprises application launch information as well as file location information. The source data is encoded and printed, and then distributed by the vendor by any logical means to the end user. The end user then scans the code via appropriate code scanning (e.g. bar code scanning) equipment, decodes the raw decoded data, and the file location information is then used to access the appropriate file. In a preferred embodiment, a Web browser program is launched, and the URL of the vendor's Web site is accessed through the Internet. Local file retrieval may also be implemented on the client computer itself, as well as over an intranet or LAN environment. Additional user-specific demographic data such as the user's name and address may also be encoded in the machine-readable code when the document is specifically tailored for individual targeting, such as mailing labels. This demographic information is uploaded to the WWW site for use by the vendor. In addition, the present invention encodes security data, such as an encryption key, for use in secure data transmissions such as electronic commerce over the Internet.

31 Claims, 10 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 10

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	MMIC	Draw Des
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☐ 76. Document ID: US 6094654 A

L14: Entry 76 of 116

File: USPT

Jul 25, 2000

US-PAT-NO: 6094654

DOCUMENT-IDENTIFIER: US 6094654 A

TITLE: Data management system for file and database management

DATE-ISSUED: July 25, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Van Huben; Gary Alan	Poughkeepsie	NY		
Mueller; Joseph Lawrence	Poughkeepsie	NY		

US-CL-CURRENT: 707/8; 707/10, 707/102, 707/3, 707/4

ABSTRACT:

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.15&ref=14&dbname=PGPB,USPT,U...> 9/30/04

A design control system suitable for use in connection with the design of integrated circuits and other elements of manufacture having many parts which need to be developed in a concurrent engineering environment with inputs provided by users and or systems which may be located anywhere in the world providing a set of control information for coordinating movement of the design information through development and to release while providing dynamic tracking of the status of elements of the bills of materials in an integrated and coordinated activity control system utilizing a repository which can be implemented in the form of a database (relational, object oriented, etc.) or using a flat file system. Once a model is created and/or identified by control information design libraries hold the actual pieces of the design under control of the system without limit to the number of libraries, and providing for tracking and hierarchical designs which are allowed to traverse through multiple libraries. Data Managers become part of the design team, and libraries are programmable to meet the needs of the design group they service.

16 Claims, 380 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 318

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Des
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☐ 77. Document ID: US 6088693 A

L14: Entry 77 of 116

File: USPT

Jul 11, 2000

US-PAT-NO: 6088693

DOCUMENT-IDENTIFIER: US 6088693 A

TITLE: Data management system for file and database management

DATE-ISSUED: July 11, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Van Huben; Gary Alan	Poughkeepsie	NY		
Mueller; Joseph Lawrence	Poughkeepsie	NY		

US-CL-CURRENT: 707/8; 707/1, 707/10, 707/203, 707/3, 707/4

ABSTRACT:

A design control system suitable for use in connection with the design of integrated circuits and other elements of manufacture having many parts which need to be developed in a concurrent engineering environment with inputs provided by users and or systems which may be located anywhere in the world providing a set of control information for coordinating movement of the design information through development and to release while providing dynamic tracking of the status of elements of the bills of materials in an integrated and coordinated activity control system utilizing a repository which can be implemented in the form of a database (relational, object oriented, etc.) or using a flat file system. Once a model is created and/or identified by control information design libraries hold the actual pieces of the design under control of the system without limit to the number of libraries, and providing for tracking and hierarchical designs which are allowed to traverse through multiple libraries. Data Managers become part of the design team, and libraries are programmable to meet the needs of the design group they service.

2 Claims, 321 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 318

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Des.
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☐ 78. Document ID: US 6035177 A

L14: Entry 78 of 116

File: USPT

Mar 7, 2000

US-PAT-NO: 6035177
DOCUMENT-IDENTIFIER: US 6035177 A

TITLE: Simultaneous transmission of ancillary and audio signals by means of perceptual coding

DATE-ISSUED: March 7, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Moses; Donald Wadia	Eagan	MN		
Lu; Daozheng	Dunedin	FL		

US-CL-CURRENT: 725/22; 380/202, 380/252, 380/253, 725/151

ABSTRACT:

A communication system for simultaneously transmitting ancillary codes and audio signals via a conventional audio communications channel using perceptual coding techniques is disclosed. An encoder monitors an audio channel to detect "opportunities" to insert an ancillary code such that the inserted signals are masked by the audio signal, as defined by the "perceptual entropy envelope" of the audio signal. An ancillary code containing, for example, an ID or serial number, is encoded as one or more whitened spread spectrum signals and/or a narrowband FSK ancillary code and transmitted at a time, frequency and/or level such that the data signal is masked by the audio signal. A decoder at a receiving location recovers the encoded ID or serial number.

25 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 14

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Des.
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☐ 79. Document ID: US 5950201 A

L14: Entry 79 of 116

File: USPT

Sep 7, 1999

US-PAT-NO: 5950201
DOCUMENT-IDENTIFIER: US 5950201 A

TITLE: Computerized design automation method using a single logical PFVL paradigm

DATE-ISSUED: September 7, 1999

<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.15&ref=14&dbname=PGPB,USPT,U...> 9/30/04

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Van Huben; Gary Alan	Poughkeepsie	NY		
Mueller; Joseph Lawrence	Poughkeepsie	NY		

US-CL-CURRENT: 707/10; 700/96, 707/102, 707/203, 707/4, 707/8, 709/201

ABSTRACT:

A design control system suitable for use in connection with the design of integrated circuits and other elements of manufacture having many parts which need to be developed in a concurrent engineering environment with inputs provided by users and or systems which may be located anywhere in the world providing a set of control information for coordinating movement of the design information through development and to release while providing dynamic tracking of the status of elements of the bills of materials in an integrated and coordinated activity control system utilizing a repository which can be implemented in the form of a database (relational, object oriented, etc.) or using a flat file system. Once a model is created and/or identified by control information design libraries hold the actual pieces of the design under control of the system without limit to the number of libraries, and providing for tracking and hierarchical designs which are allowed to traverse through multiple libraries. Data Managers become part of the design team, and libraries are programmable to meet the needs of the design group they service.

26 Claims, 37 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 26

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw. Des.
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☐ 80. Document ID: US 5926279 A

L14: Entry 80 of 116

File: USPT

Jul 20, 1999

US-PAT-NO: 5926279

DOCUMENT-IDENTIFIER: US 5926279 A

TITLE: Test system for optical and electro-optical viewing systems

DATE-ISSUED: July 20, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bijl; Pieter	Amersfoort			NL
Valeton; Jean Mathieu	Zeist			NL

US-CL-CURRENT: 356/388

ABSTRACT:

Test system for viewing systems, such as CCD cameras, infrared viewers, or binoculars or telescopes, which test system is provided with a test object having various component test objects to be shown to the viewing system, which test object is to be placed at a distance from the viewing system and which is to be tendered displayable with the viewing system for an inspection unit (for example, a test operative), with which inspection unit the quality of the operation of the viewing system can be

determined on the basis of said display, the test object comprising component test objects differing in appearance from one another and the test system being suitable for presenting said component test objects simultaneously or one after another to the inspection unit to determine a property of the displayed component test objects.

19 Claims, 7 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 4

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWOC	Draw Des
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☐ 81. Document ID: US 5920873 A

L14: Entry 81 of 116

File: USPT

Jul 6, 1999

US-PAT-NO: 5920873
DOCUMENT-IDENTIFIER: US 5920873 A

TITLE: Data management control system for file and database

DATE-ISSUED: July 6, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Van Huben; Gary Alan	Poughkeepsie	NY		
Mueller; Joseph Lawrence	Poughkeepsie	NY		

US-CL-CURRENT: 707/202; 707/201, 707/203, 707/204

ABSTRACT:

A design control system suitable for use in connection with the design of integrated circuits and other elements of manufacture having many parts which need to be developed in a concurrent engineering environment with inputs provided by users and or systems which may be located anywhere in the world providing a set of control information for coordinating movement of the design information through development and to release while providing dynamic tracking of the status of elements of the bills of materials in an integrated and coordinated activity control system utilizing a repository which can be implemented in the form of a database (relational, object oriented, etc.) or using a flat file system. Once a model is created and/or identified by control information design libraries hold the actual pieces of the design under control of the system without limit to the number of libraries, and providing for tracking and hierarchical designs which are allowed to traverse through multiple libraries. Data Managers become part of the design team, and libraries are programmable to meet the needs of the design group they service.

18 Claims, 321 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 318

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWOC	Draw Des
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☐ 82. Document ID: US 5895927 A

US-PAT-NO: 5895927

DOCUMENT-IDENTIFIER: US 5895927 A

TITLE: Electro-optic, noncontact, interior cross-sectional profiler

DATE-ISSUED: April 20, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Brown; Jeff Lee	Riverside	OH		

US-CL-CURRENT: 250/559.19; 250/559.22, 250/559.24, 356/613

ABSTRACT:

An electro-optic, noncontact, interior cross-sectional profiler (a "probe") and method of using the probe to determine the physical characteristics, such as interior dimensions, of an interior surface of a tubular structure, such as pipe, tubing, gun barrels and the like. The probe utilizes a disc of unfocused light to illuminate a cross-section of the interior surface and images the illuminated cross-section from the interior surface to a photodetector array, where the image can be evaluated. The probe is useful for off-line and on-line (or "in-line") processes, such as an extrusion process.

47 Claims, 8 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 7

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Des.
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☐ 83. Document ID: US 5826265 A

L14: Entry 83 of 116

File: USPT

Oct 20, 1998

US-PAT-NO: 5826265

DOCUMENT-IDENTIFIER: US 5826265 A

TITLE: Data management system having shared libraries

DATE-ISSUED: October 20, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Van Huben; Gary Alan	Poughkeepsie	NY		
Mueller; Joseph Lawrence	Poughkeepsie	NY		
Xiao; Steve Yun	Poughkeepsie	NY		
Mak; Joyce Chang	Poughkeepsie	NY		

US-CL-CURRENT: 707/8; 707/10, 707/102, 707/3, 707/4, 707/9

ABSTRACT:

A design control system suitable for use in connection with the design of integrated circuits and other elements of manufacture having many parts which need to be developed in a concurrent engineering environment with inputs provided by users and or systems which may be located anywhere in the world providing a set of control information for coordinating movement of the design information through development and to release while providing dynamic tracking of the status of elements of the bills of materials in an integrated and coordinated activity control system utilizing a repository which can be implemented in the form of a database (relational, object oriented, etc.) or using a flat file system. Once a model is created and/or identified by control information design libraries hold the actual pieces of the design under control of the system without limit to the number of libraries, and providing for tracking and hierarchical designs which are allowed to traverse through multiple libraries. Data Managers become part of the design team, and libraries are programmable to meet the needs of the design group they service.

26 Claims, 321 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 318

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Des.
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☐ 84. Document ID: US 5742699 A

L14: Entry 84 of 116

File: USPT

Apr 21, 1998

US-PAT-NO: 5742699
DOCUMENT-IDENTIFIER: US 5742699 A

TITLE: Passive velocity measuring device

DATE-ISSUED: April 21, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Adkins; William A.	Chuluota	FL	32766	
Pierce; James H.	Clearwater	FL	34624	

US-CL-CURRENT: 382/107; 340/936, 340/937, 348/137, 348/140, 348/141, 348/171,
348/172, 382/103, 382/104, 382/106, 701/119

ABSTRACT:

The presented invention provides the velocity of a moving target from a remote location. A CCD camera receives the image of the target vehicle and records this information on CCD array. The camera then outputs this information in a standard video format such as RS-170, NTSC, or equivalent to the frame grabber circuit card assembly located in the main computer. Custom software along with commercial frame grabber imaging software operates the computer in a Windows or DOS environment. The system will correlate the image of multiple frames stored in the frame grabber circuit card, along with the overlain reference lines and determine the velocity of the target vehicle in miles or kilometers per hour. The image data will be stored in the computer on removable media, along with all pertinent data of the incident including the time/date/location stamp, along with calibration factors and an image of the vehicle operator.

2 Claims, 12 Drawing figures
Exemplary Claim Number: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMC	Draw Des
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☐ 85. Document ID: US 5699794 A

L14: Entry 85 of 116

File: USPT

Dec 23, 1997

US-PAT-NO: 5699794

DOCUMENT-IDENTIFIER: US 5699794 A

**** See image for Certificate of Correction ****

TITLE: Apparatus for automated urine sediment sample handling

DATE-ISSUED: December 23, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fleck; Thomas M.	Woodinville	WA		

US-CL-CURRENT: 600/310; 128/920

ABSTRACT:

An automated apparatus for urine sediment sample handling includes settling cells for carrying patient samples transported on a sample and cell transport assembly. An illumination and camera assembly is positioned in an examination area to view one of the settling cells when it moves to the examination area. The illumination and camera assembly have a first data output. An image processing assembly is coupled to receive data from the first data output. The image processing assembly have a second data output for carrying processed digital data. A processor having control lines is coupled to the sample and cell transport assembly, illumination and camera assembly, and image processing assembly where the sample and cell transport assembly, illumination and camera assembly, and image processing assembly operate responsively to commands from the processor to handle the urine sediment samples.

9 Claims, 19 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 15

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMC	Draw Des
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☐ 86. Document ID: US 5627915 A

L14: Entry 86 of 116

File: USPT

May 6, 1997

US-PAT-NO: 5627915

DOCUMENT-IDENTIFIER: US 5627915 A

TITLE: Pattern recognition system employing unlike templates to detect objects having distinctive features in a video field

DATE-ISSUED: May 6, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rosser; Roy	Princeton	NJ		
Das; Subhudev	Princeton	NJ		
Tan; Yi	Plainsboro	NJ		
von Kaenel; Peter	Plainsboro	NJ		

US-CL-CURRENT: 382/219; 382/278

ABSTRACT:

A system for inserting images into live video fields includes a method for rapidly and efficiently identifying landmarks and objects. Initially a first template, having a first pattern similar to one of the distinctive features of the object, is passed over the video field and compared to it in order to preliminarily identify at least one possible distinctive feature as a candidate. A second template is then created by taking one of the major elements of the distinctive feature candidate and extending that element all the way across the second template and then comparing it to the distinctive feature candidate. This eliminates one or more possible falsely identified features. A third template is then created having a pattern formed from another major element of said distinctive feature and extending it all the way across the third template. The third template is then likewise passed over the distinctive feature candidate and compared therewith in order to eliminate still further falsely identified features. The method is continued until all possible false alarm candidates have been eliminated. The process is then repeated in order to preliminarily identify two or three landmarks of the target object. The locations of those objects are then compared to a geometric model to further verify if the object has been correctly identified. The methodology can be tested against a video taped program to determine if it accurately identifies objects.

27 Claims, 14 Drawing figures
 Exemplary Claim Number: 1
 Number of Drawing Sheets: 7

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMC	Draw Des
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☐ 87. Document ID: US 5550021 A

L14: Entry 87 of 116

File: USPT

Aug 27, 1996

US-PAT-NO: 5550021

DOCUMENT-IDENTIFIER: US 5550021 A

**** See image for Certificate of Correction ****

TITLE: Allelic diagnosis of susceptibility to compulsive disorder

DATE-ISSUED: August 27, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blum; Kenneth	San Antonio	TX		
Noble; Ernest P.	Los Angeles	CA		
Sheridan; Peter J.	San Antonio	TX		

US-CL-CURRENT: 435/6; 435/810, 435/91.1, 435/91.2, 536/23.1, 536/23.5, 536/24.31, 536/24.33<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.15&ref=14&dbname=PGPB,USPT,U...> 9/30/04

ABSTRACT:

In an important embodiment, the present invention concerns a method for diagnosing and detecting compulsive disorder susceptibility of an individual. The method comprises initially obtaining a DNA sample of said individual and then determining the presence or absence of particular human D.sub.2 receptor gene alleles in said sample. Detection of said alleles in the sample are indicative of predilection to compulsive disorder. A most preferred embodiment is to detect predisposition to impulsive, addictive, and compulsive disorders such as, but not limited to, alcoholism, obesity, smoking, polysubstance abuse and drug addiction, particularly because said alleles have been found to be present in a majority of individuals clinically diagnosed with these compulsive disorders. The human D.sub.2 receptor gene A1, B1, and .sup.In6-Ex7 haplotype I alleles are most preferably detected in said sample.

34 Claims, 12 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 10

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Desc
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☐ 88. Document ID: US 5463757 A

L14: Entry 88 of 116

File: USPT

Oct 31, 1995

US-PAT-NO: 5463757

DOCUMENT-IDENTIFIER: US 5463757 A

**** See image for Certificate of Correction ****

TITLE: Command interface between user commands and a memory device

DATE-ISSUED: October 31, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fandrich; Mickey L.	Placerville	CA		
Lee; Kelvin W.	Sacramento	CA		
Kreiffels; Jerry A.	Citrus Heights	CA		
Kynett; Virgil N.	El Dorado Hills	CA		
Robinson; Kurt B.	Newcastle	CA		

US-CL-CURRENT: 711/103

ABSTRACT:

A command state machine for control circuitry associated with a memory array which control circuitry includes apparatus for programming and erasing the memory array including first state machine logic apparatus for providing control signals for reading the memory array and for initiating operations of the apparatus for programming and erasing the memory array in response to commands, and second state machine logic apparatus for controlling information derived from the memory array, the first and second state machine logic apparatus being adapted to assume predetermined states in response to any invalid command which have no adverse affect on the memory array or the control circuitry.

11 Claims, 6 Drawing figures
Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. Des.
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☐ 89. Document ID: US 5036479 A

L14: Entry 89 of 116

File: USPT

Jul 30, 1991

US-PAT-NO: 5036479

DOCUMENT-IDENTIFIER: US 5036479 A

TITLE: Modular automated avionics test system

DATE-ISSUED: July 30, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Prednis; Leonard J.	San Diego	CA		
Proctor; Michael L.	San Diego	CA		
Sugarman; Alan D.	Poway	CA		

US-CL-CURRENT: 702/121; 324/158.1, 714/732

ABSTRACT:

A modular automated test station permits a plurality of tests to be performed under program control on complex electronic assemblies such as avionics equipment and provides for calibration. Interactive prompts are displayed enabling test personnel with minimal training to operate the test station and perform the tests. Particular kinds of test instrumentation together with the associated software program may be removed or replaced by other instrumentation and software to adapt the test station to test of another kind of equipment. A group of test stations forms a part of an assembly line in which information may be shared among test stations and with remote databases. The test stations are arranged in groups with one test station in the group containing a processor that is shared with other stations in the group and with each test station containing an assigned processor with the assigned processors being permitted to communicate with the shared processor. The shared processor may also communicate with remote databases.

29 Claims, 11 Drawing figures

Exemplary Claim Number: 16

Number of Drawing Sheets: 10

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. Des.
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☐ 90. Document ID: US 4785941 A

L14: Entry 90 of 116

File: USPT

Nov 22, 1988

US-PAT-NO: 4785941

DOCUMENT-IDENTIFIER: US 4785941 A

TITLE: Apparatus for automatically selecting acceptable or unacceptable hollow cylindrical products such as bushes

DATE-ISSUED: November 22, 1988

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mori; Sanae	Nagoya			JP

US-CL-CURRENT: 209/601; 209/619, 209/688, 33/517, 33/523

ABSTRACT:

An apparatus mechanically actuates GO ring gauges and NOGO ring gauges to check whether inner and outer diameters of hollow, cylindrical-shaped products such as bushes B/G are within fit tolerances, thus automatically distinguishing between acceptable and unacceptable products. The apparatus comprises a rotatable index plate, a plurality of guide bushes G/B provided circumferentially on the index plate for receiving cylindrical-shaped products such as bushes B/G, GO ring gauges and NOGO ring gauges, respectively engaged by the end surfaces of the guide bushes and provided circumferentially of the index plate in order and secured to a body, a mechanism for discharging hollow, cylindrical-shaped products such as bushes, a pusher mechanism for pushing one end surface of a hollow, cylindrical-shaped product through the guide bush into the inner bore of the GO ring gauges and NOGO ring gauges with a predetermined pressure to judge GO and NOGO of the product, a plug gauge mechanism for pushing a plug gauge into the inner bore of a hollow, cylindrical-shaped product with a predetermined pressure for the judgement of GO and NOGO of the product, and retractable knockout pusher mechanism for pushing the pusher mechanism into the other ends of the pusher plug gauge mechanisms for the GO ring gauges, and the plug gauge mechanism for the NOGO plug gauges and for pushing the other end surface of a hollow, cylindrical-shaped product in a direction opposite to the direction of advancement of the plug gauge mechanism with a fluctuating pressure to force the product back into the guide bush.

20 Claims, 15 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 10

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Des
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☐ 91. Document ID: US 4625081 A

L14: Entry 91 of 116

File: USPT

Nov 25, 1986

US-PAT-NO: 4625081

DOCUMENT-IDENTIFIER: US 4625081 A

TITLE: Automated telephone voice service system

DATE-ISSUED: November 25, 1986

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lotito; Lawrence A.	Los Angeles	CA	90056	
Huxford; Teresa D.	Los Angeles	CA	90025	
Donaldson; Ann L.	Torrance	CA	90501	

US-CL-CURRENT: 379/88.26; 379/196, 379/207.13, 379/211.02, 379/88.08, 379/88.19,
379/88.24, 902/2, 902/39

ABSTRACT:

An automated telephone voice service system includes a data store having a plurality of addressable voice storage message baskets defined therein and a control system coupled between the store and a large plurality of telephone lines of a telephone network. An incoming cable may address a particular message basket by entering a code through the telephone keyboard or by a predetermined association with a particular call in line. Upon identification of the message basket the caller is greeted by a client's own voice and invited to leave a voice message which will be recorded in the message basket or given other client information. Upon entry of a personal identification code a caller is granted access to user account functions which include retrieval of voice messages, forwarding of messages to other message baskets or telephone lines, and administrative functions such as the changing of greetings or account operating criteria. Editing commands may be utilized during the recording of voice messages.

74 Claims, 27 Drawing figures
Exemplary Claim Number: 33,68
Number of Drawing Sheets: 27

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMIC	Draw Des
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☐ 92. Document ID: US 4412287 A

L14: Entry 92 of 116

File: USPT

Oct 25, 1983

US-PAT-NO: 4412287

DOCUMENT-IDENTIFIER: US 4412287 A

TITLE: Automated stock exchange

DATE-ISSUED: October 25, 1983

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Braddock, III; Walter D.	Springfield	IL	62707	

US-CL-CURRENT: 705/37

ABSTRACT:

An automated stock exchange in which a computer matches buy and sell orders for a plurality of stocks. An open board simultaneous trading environment is simulated through two stages. The first stage is an order accumulation period which is continuously in operation except for one stock in the second stage. The second stage is an extremely rapid sequential call through. All orders for a given stock are available to customers during the first stage. During the second stage market orders are matched with market orders, then market orders are traded against limit orders as the trading price changes within controlled ranges. The system will also process stop orders, and other specialized transactions.

1 Claims, 6 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 5

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMIC	Draw Des
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☐ 93. Document ID: US 4276594 A

L14: Entry 93 of 116

File: USPT

Jun 30, 1981

US-PAT-NO: 4276594

DOCUMENT-IDENTIFIER: US 4276594 A

TITLE: Digital computer with multi-processor capability utilizing intelligent composite memory and input/output modules and method for performing the same

DATE-ISSUED: June 30, 1981

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Morley; Richard E.	Greenville	NH		

US-CL-CURRENT: 713/600

ABSTRACT:

A digital computer with the capability of incorporating multiple central processing units (CPU's), utilizes an address and data bus between each central processing unit and from one to fifteen intelligent composite memory and input/output modules (MIO). Data is transferred to and from each MIO and the CPU synchronously by a bus during one phase of a three phase clocking cycle. During a second phase of the clocking cycle data on one or more low speed serial data channels within each MIO is transferred to and from the MIO and external devices. During the third phase of the clocking cycle data on a high speed direct memory access channel (DMA) is transferred to and from the MIO and one or more external devices. Additional CPU's can be interconnected with the first CPU by means of an inter-processor buffer module (IPB) which interconnects to the bus at one end and the additional CPU, by means of a bus, at its other end. The IPB may be a software modifiable MIO and can store data addressable by the two interconnected CPU's. In turn, the additional CPU and its associated bus interconnects by the second bus with from one to fifteen additional MIO's or IPB's, allowing cascading of CPU's and associated MIO's and IPB's. Since all data transfers to and from the MIO's and external devices occur at time phases separate from the first time phase in which the CPU communicates with the MIO's and IPB's, the computational speed of any CPU is independent of the quantity of data transferred between the MIO's and IPB's and associated external devices or additional CPU's.

36 Claims, 68 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 57

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	MMMC	Draw. Des.
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☐ 94. Document ID: US 4256664 A

L14: Entry 94 of 116

File: USPT

Mar 17, 1981

US-PAT-NO: 4256664

DOCUMENT-IDENTIFIER: US 4256664 A

TITLE: Substantive sunscreen agents

DATE-ISSUED: March 17, 1981

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Epstein; Morton B.	Chicago	IL		
Gerecht; John F.	Somerville	NJ		

US-CL-CURRENT: 564/177; 424/59, 424/60, 564/163, 564/166

ABSTRACT:

Substantive sunscreen agents which are neutralized or quaternary ammonium salts of esters or amides of p-aminobenzoic acid, p-nitrobenzoic acid or salicylic acid with choline, lecithin, hydroxyalkyl-substituted imidazoles, 2,2-dialkylamino alkanols or alkylamines, pyridinesulfonamide, or colaminomethylformyl chloride; or omega halogenoalkylethers of salicylic acid quaternized with tertiary amines. This is a continuation of application Ser. No. 339,974 filed Mar. 12, 1973, which is a divisional application of Ser. No. 130,533, filed Apr. 1, 1971, both now abandoned.

4 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	EMC	Draw Des
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☐ 95. Document ID: US 3854125 A

L14: Entry 95 of 116

File: USPT

Dec 10, 1974

US-PAT-NO: 3854125

DOCUMENT-IDENTIFIER: US 3854125 A

TITLE: AUTOMATED DIAGNOSTIC TESTING SYSTEM

DATE-ISSUED: December 10, 1974

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ehling; Ernest H.	Hackensack	NJ		
Jackson; Philip C.	Oakland	NJ		
McCarthy; James V.	Riverdale	NJ		

US-CL-CURRENT: 714/27

ABSTRACT:

An automated diagnostic testing system under control of a computer having on-line compiling capability for entering and modifying testing programs involving the inter-connection of the unit under test with one or more peripheral devices.

An important aspect of the invention is the system for routing electrical signals between a selected pair of a plurality of terminals, via one or more conductive buses, including switch means associated with each terminal and controllably operative to connect that terminal to any one of the buses. Switch control means responsive to programmed commands determines from a stored indication the availability of one of the buses, assigns the bus determined to be available to one of the selected terminals, assigns the other selected terminal to that bus, stores an

indication of the bus and terminal so assigned and operates the switch means associated with the selected terminals to connect them to the assigned bus. The switch means comprises a controllable individual switch between each bus and a particular terminal, and at least one separately controllable switch for opening and closing the series circuit between the terminal and any bus. This separately controllable switch is operated prior to operating the individual switches between the terminal and each of the buses.

22 Claims, 24 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 19

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMIC	Draw Des
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☐ 96. Document ID: US 3818195 A

L14: Entry 96 of 116

File: USPT

Jun 18, 1974

US-PAT-NO: 3818195
DOCUMENT-IDENTIFIER: US 3818195 A

TITLE: METHOD AND APPARATUS FOR CONTROLLING PLACEMENT OF SPLIT DIE CAVITIES

DATE-ISSUED: June 18, 1974

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Levine; Richard C.	Plainfield	NJ		

US-CL-CURRENT: 700/145; 164/1, 164/6, 76/107.1, 76/107.4, 76/4

ABSTRACT:

Apparatus for controlling the placement of split die cavities in a progressive die where each cavity is described in terms of a group of contour coordinate signals which define predetermined coordinates of the contour of the cavity and split direction signals which define faces of the cavity contour from which splits thereof radiate, the apparatus comprising:

First register means for storing a first group of contour coordinate signals and split direction signals corresponding to a first split die cavity;

Second register means for storing a second group of contour coordinate signals and split direction signals corresponding to a second split die cavity;

Analyzer means responsive to first and second contour coordinate signals for determining whether the split die cavity corresponding to a first signal group is inappropriately placed with respect to the split die cavity corresponding to a second signal group because of unmatched split conditions.

16 Claims, 5 Drawing figures Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KMIC	Draw Des
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☐ 97. Document ID: WO 2004005510 A1

L14: Entry 97 of 116

File: EPAB

Jan 15, 2004

PUB-NO: WO2004005510A1

DOCUMENT-IDENTIFIER: WO 2004005510 A1

TITLE: NOVEL Nogo RECEPTOR-LIKE POLYPEPTIDE AND DNA THEREOF

PUBN-DATE: January 15, 2004

INVENTOR-INFORMATION:

NAME

COUNTRY

ORITA, SATOSHI

JP

SHIMAZAKI, ATSUYUKI

JP

YANAGIMOTO, TORU

JP

NAKAJIMA, MASATOSHI

JP

OSHIMA, TAKEO

JP

INT-CL (IPC): C12 N 15/09; A01 K 67/027; A61 K 31/7088; A61 K 38/17; A61 K 39/395; A61 K 48/00; A61 P 3/10; A61 P 21/04 ; A61 P 25/00; A61 P 25/16; A61 P 25/28; C07 K 14/705; C07 K 16/28; C12 P 21/02; C12 Q 1/68; G01 N 33/15; G01 N 33/50; G01 N 33/53; G01 N 33/566

EUR-CL (EPC): C07K014/705

ABSTRACT:

CHG DATE=20040203 STATUS=O>A novel Nogo receptor-like polypeptide is found out as a protein showing elevated expression in the skeletal muscle of a Zucker fatty rat, which is a diabetes model rat, having a restricted diet and taking exercises. Moreover, a human homolog protein corresponding to it is found out. The above polypeptide is useful as a diabetic marker and a remedy for diabetes. Since this polypeptide is expressed most strongly in the cerebral cortex in the brain, it is also useful as a marker for neurodegenerative diseases such as Alzheimer's disease and a remedy for neurodegenerative diseases.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw Des
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☐ 98. Document ID: WO 2004039836 A1

L14: Entry 98 of 116

File: DWPI

May 13, 2004

DERWENT-ACC-NO: 2004-376159

DERWENT-WEEK: 200435

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TITLE: New isolated truncated Nogo-A polypeptide that corresponds to a truncated form of the Nogo-A protein, useful for identifying a compound having detectable affinity to a Nogo-A protein

INVENTOR: FIEDLER, M; SKERRA, A

PRIORITY-DATA: 2002WO-EP12210 (October 31, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 2004039836 A1	May 13, 2004	E	080	C07K014/475

INT-CL (IPC): C07 K 14/475; C07 K 16/18; C12 N 15/12; G01 N 33/53

ABSTRACTED-PUB-NO: WO2004039836A

BASIC-ABSTRACT:

NOVELTY - An isolated truncated Nogo-A polypeptide that corresponds to a truncated form of the Nogo-A protein consisting of amino acids 174-940 of the full-length protein of rat Nogo-A comprising 1163 amino acids (P1), or of the amino acids 246-966 of the human full-length protein of 1192 amino acids (P2), fully defined in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

- (1) a fusion protein consisting of a Nogo-A polypeptide and a fusion partner fused to the N- and/or C-terminus of the Nogo-A polypeptide;
- (2) a nucleic acid molecule encoding the polypeptide or fusion protein;
- (3) a vector comprising the nucleic acid molecule;
- (4) a host cell comprising the vector;
- (5) a method for producing the Nogo-A polypeptide or the fusion protein, where the Nogo-A polypeptide or fusion protein is produced starting from the nucleic acid coding for the Nogo-A polypeptide by means of an in vitro transcription and translation system and is isolated from this in vitro system or by means of genetic engineering methods in a bacterial or eukaryotic host organism and is isolated from this host organism or its culture;
- (6) a method for identifying a compound having detectable affinity to a Nogo-A protein by contacting the truncated Nogo-A polypeptide or fusion protein with a compound of interest under conditions that allow formation of a complex between the truncated Nogo-A protein and the compound and detecting the complex formed by means of a suitable signaling method;
- (7) a method for identifying a compound having detectable affinity to a Nogo-A protein by contacting the truncated Nogo-A polypeptide or fusion protein with compounds of interest under conditions that allow formation of a complex between the truncated Nogo-A protein and the compounds; and enriching at least one compound of interest that has detectable binding affinity to the Nogo-A protein by screening, selecting and/or isolating the at least one compound; and
- (8) an antibody or its fragment having the variable domain of a sequence of 121 or 107 amino acids, fully defined in the specification.

USE - The truncated polypeptide is useful for identifying a compound having detectable affinity to a Nogo-A protein (claimed).

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw Des
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☐ 99. Document ID: JP 2004081195 A

L14: Entry 99 of 116

File: DWPI

Mar 18, 2004

DERWENT-ACC-NO: 2004-233359

DERWENT-WEEK: 200422

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TITLE: Producing anti-Nogo-A monoclonal antibodies by hybridizing a spleen cell of an immunized non-human animal, with a myeloma cell, obtaining and culturing a hybridoma and screening the culture supernatant by immunohistochemical method

PRIORITY-DATA: 2002JP-0186976 (June 26, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2004081195 A	March 18, 2004		017	C12N015/09

INT-CL (IPC): A61 K 39/395; A61 P 25/00; C12 N 5/10; C12 N 15/02; C12 N 15/09; C12 P 21/08; G01 N 33/577

ABSTRACTED-PUB-NO: JP2004081195A

BASIC-ABSTRACT:

NOVELTY - Producing (M1) a monoclonal antibody that binds with the extracellular domain of Nogo-A, comprising hybridizing a spleen cell of a non-human animal immunized at olfactory tract, with a different myeloma cell, obtaining and culturing the hybridoma, and screening the culture supernatant of hybridoma by immunohistochemical method by reacting with the slice of telencephalon of different type of non-human animal, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- (1) monoclonal antibody (I) binding with the extracellular domain of Nogo-A, obtained by (M1);
- (2) a detection reagent of Nogo-A, comprising (I);
- (3) a diagnostic of a disease associated with over expression of Nogo-A, comprising (I);
- (4) prophylactic or treatment drug of a disease associated with over expression of Nogo-A, comprising (I); and
- (5) a hybridoma (II) having the ability of producing (I).

ACTIVITY - Neuroprotective.

MECHANISM OF ACTION - Immunotherapy.

No biological data given.

USE - (I) Is useful for treating neurodegenerative disease and nerve damage. (I) Is also useful as detection reagent for diagnosing diseases associated with the over expression of Nogo-A.

ADVANTAGE - (I) Is efficient in diagnosing the over expression of Nogo-A, and treating the neurodegenerative diseases.

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	KWIC	Draw. Des.
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☐ 100. Document ID: WO 2004005510 A1

L14: Entry 100 of 116

File: DWPI

Jan 15, 2004

DERWENT-ACC-NO: 2004-099390

DERWENT-WEEK: 200410

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<http://westbrs:9000/bin/gate.exe?f=TOC&state=cavu35.15&ref=14&dbname=PGPB,USPT,U...> 9/30/04

TITLE: Nogo receptor-like polypeptides useful as markers and treatments for diabetes and neurodegenerative disease

INVENTOR: NAKAJIMA, M; ORITA, S ; OSHIMA, T ; SHIMAZAKI, A ; YANAGIMOTO, T

PRIORITY-DATA: 2002JP-0197188 (July 5, 2002)

PATENT-FAMILY:

PUB-NO.	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 2004005510 A1	January 15, 2004	J	112	C12N015/09

INT-CL (IPC): A01 K 67/027; A61 K 31/7088; A61 K 38/17; A61 K 39/395; A61 K 48/00; A61 P 3/10; A61 P 21/04; A61 P 25/00 ; A61 P 25/16; A61 P 25/28; C07 K 14/705; C07 K 16/28; C12 N 15/09; C12 P 21/02; C12 Q 1/68; G01 N 33/15; G01 N 33/50; G01 N 33/53; G01 N 33/566

ABSTRACTED-PUB-NO: WO2004005510A

BASIC-ABSTRACT:

NOVELTY - Polypeptides containing the sequence from Gly at position 22 to Arg at position 441 in the amino acid sequence given in the specification as SEQ ID NO 2, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- (1) polypeptides containing the sequence from Ser at position 22 to Arg at position 445 in the amino acid sequence given in the specification as SEQ ID NO 4;
- (2) polynucleotides encoding the polypeptides;
- (3) vectors containing the polynucleotides;
- (4) hosts transformed by the vectors;
- (5) method for producing the polypeptides using the hosts;
- (6) method for detecting and quantifying the polypeptides using antibodies;
- (7) kits for detecting diabetes and neurodegenerative disease;
- (8) method and kit for screening for substances that bind to the polypeptides;
- (9) substances for controlling the expression of the polypeptides;
- (10) non-human knockout animals whose DNA encoding for the polypeptides have been knocked out;
- (11) non-human transgenic animals that express the polypeptides;
- (12) medical compositions and methods for treating diabetes and neurodegenerative disease (claimed).

ACTIVITY - Antidiabetic; Neuroprotective.

No biological data is given.

MECHANISM OF ACTION - Nogo receptor-like.

USE - These polypeptides are useful as markers and treatments for diabetes and neurodegenerative disease (claimed).

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L13 AND human	116

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Search Results - Record(s) 101 through 116 of 116 returned.

☐ 101. Document ID: US 20030186267 A1

Using default format because multiple data bases are involved.

L14: Entry 101 of 116

File: DWPI

Oct 2, 2003

DERWENT-ACC-NO: 2004-031999

DERWENT-WEEK: 200403

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TITLE: Isolated nucleic acid molecule for e.g. diagnosing and treating cardiovascular condition, comprises polynucleotide encoding human leucine-rich repeat cardiac receptor-1 protein having amino acid sequence of specific length

INVENTOR: FEDER, J N; MINTIER, G ; RAMANATHAN, C S

PRIORITY-DATA: 2001US-328478P (October 11, 2001), 2002US-0271078 (October 11, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030186267 A1	October 2, 2003		164	C12Q001/68

INT-CL (IPC): A61 K 38/17; C07 H 21/04; C07 K 14/715; C12 N 5/06; C12 P 21/02; C12 Q 1/68

Full	Title	Citation	Front	Review	Classificati	Date	Reference	Claims	KWIC	Draw. Des.
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☐ 102. Document ID: EP 1440091 A1, WO 2003035687 A1

L14: Entry 102 of 116

File: DWPI

Jul 28, 2004

DERWENT-ACC-NO: 2003-430403

DERWENT-WEEK: 200449

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TITLE: New polynucleotides and polypeptides encoding Nogo-66 receptor homologues (NgrH1), useful for preparing a composition for treating neurological disorders

INVENTOR: BARSKE, C; FRENTZEL, S ; HEIN, A E ; KAUPMANN, K ; SOMMER, B J

PRIORITY-DATA: 2001US-337595P (October 22, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1440091 A1	July 28, 2004	E	000	C07K014/705
WO 2003035687 A1	May 1, 2003	E	068	C07K014/705

INT-CL (IPC): C07 K 14/705; C07 K 16/28; C12 N 15/12; C12 N 15/62

ABSTRACTED-PUB-NO: WO2003035687A
BASIC-ABSTRACT:

NOVELTY - A new isolated polypeptide (I) comprises:

- (1) a sequence encoded by a polynucleotide comprising 1263 bp;
- (2) a sequence comprising 420 amino acids;
- (3) a sequence having at least 95% identity with (B); or
- (4) fragment of (A)-(C).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) an isolated polynucleotide;
- (2) an expression system comprising the polynucleotide capable of producing (I);
- (3) a recombinant host cell comprising the expression vector or a membrane;
- (4) an antibody immunospecific for (I);
- (5) a fusion protein comprising the Immunoglobulin Fc-region and (I);
- (6) identifying a compound that modulates human NgR homologue 1 (NgRH1) receptor activity; and
- (7) producing (I).

ACTIVITY - Neuroprotective. No biological data given.

MECHANISM OF ACTION - Gene therapy.

USE - The polypeptide, polynucleotide and antibody are useful for preparing a composition for treating a neurological disorder.

Full	Title	Citation	Front	Review	Classificati	Date	Reference			Claims	KMC	Draw. Des
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☐ 103. Document ID: EP 1451337 A2, WO 2003031462 A2

L14: Entry 103 of 116

File: DWPI

Sep 1, 2004

DERWENT-ACC-NO: 2003-393433

DERWENT-WEEK: 200457

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TITLE: New human Nogo receptor polypeptides and nucleic acids, useful for decreasing inhibition of axonal growth by a central nervous system neuron, or in treating central nervous system disease, disorder or injury, e.g. spinal cord injury

INVENTOR: STRITTMATTER, S M

PRIORITY-DATA: 2001US-0972599 (October 6, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1451337 A2	September 1, 2004	E	000	C12P021/06

INT-CL (IPC): C07 H 21/04; C07 K 0/00; C07 K 14/00; C12 N 15/00; C12 P 21/06

ABSTRACTED-PUB-NO: WO2003031462A

BASIC-ABSTRACT:

NOVELTY - A nucleic acid (I) encoding a polypeptide comprising amino acid residues 27-309 of a 473 amino acid sequence (P1, human Nogo receptor (NgR) NTLRRCT domain), given in the specification, or residues 27-309 of P1 with 1-20 conservative amino acid substitutions, and less than a complete CTS domain, provided that a partial CTS domain, if present, consists of no more than the first 39 consecutive residues, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) a vector comprising (I);
- (2) a cell comprising the vector of (1);
- (3) a polypeptide (II) comprising:
 - (a) amino acid residues 27-309 of P1 (human NgR NTLRRCT domain), or amino acid residues 27-309 of P1 with 1-20 conservative amino acid substitutions; and
 - (b) fewer than 115 consecutive amino acids from amino acids 310-445 of P1;
- (4) producing (II) by introducing a nucleic acid encoding the polypeptide of (3) into a host cell, culturing the host cell under conditions for the expression of the polypeptide, and recovering the polypeptide;
- (5) an antibody that binds to an epitope in the CTS domain of NgR;
- (6) inhibiting binding of a Nogo polypeptide to a NgR;
- (7) decreasing inhibition of axonal growth by a CNS neuron;
- (8) treating a central nervous system disease, disorder or injury;
- (9) identifying a molecule that decreases Nogo-dependent inhibition of axonal growth;
- (10) a composition comprising a polypeptide or antibody of (5), and a pharmaceutical carrier;
- (11) a nucleic acid comprising a nucleotide sequence encoding a polypeptide comprising the amino acid sequence (S1), where the polypeptide comprises 40 amino acids or fewer;
- (12) a polypeptide (III) comprising the amino acid sequence (S1), where the polypeptide comprises 40 amino acids or fewer;
- (13) an antibody that binds to a polypeptide of (12);
- (14) a composition comprising a polypeptide of (12) or an antibody of (13), and a pharmaceutical carrier;
- (15) inhibiting binding of a Nogo polypeptide to a NgR by contacting the NgR with the polypeptide of (12), or by contacting the Nogo polypeptide with an antibody of (13);
- (16) decreasing inhibition of axonal growth by a CNS neuron by contacting the neuron with a polypeptide of (12) or an antibody of (13);

(17) treating a CNS disease, disorder or injury by administering a polypeptide of (12) or an antibody of (13) to the mammal; and

(18) identifying a molecule that decreases axonal Nogo-dependent inhibition of axonal growth.

(S1) is Ile-Tyr-Lys-Gly-Val-Ile-Gln-Ala-Ile, or Glu-Glu-Leu-Val.

ACTIVITY - Neuroprotective.

No biological data is given.

MECHANISM OF ACTION - Gene therapy.

USE - The nucleic acid is useful for decreasing inhibition of axonal growth by a central nervous system (CNS) neuron. The Ngr polypeptide or an agent inhibits the binding of Nogo to Ngr or Ngr-dependent signal transduction in the central nervous system neuron may be used in treating central nervous system disease, disorder or injury, e.g. spinal cord injury. Expression of an Ngr protein may be associated with inhibition of axonal regeneration following cranial, cerebral or spinal trauma, stroke or a demyelinating disease, such as multiple sclerosis, monophasic demyelination, encephalomyelitis, multifocal leukoencephalopathy, panencephalitis, or Krabbe's disease.

Full	Title	Citation	Front	Review	Classificati	Date	Reference	Claims	KMOC	Draw. Desc
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☐ 104. Document ID: WO 200281628 A2, US 20030113891 A1, US 20030119017 A1, US 20030143732 A1, US 20030148507 A1, US 20030191077 A1, EP 1386004 A2, AU 2002307099 A1

L14: Entry 104 of 116

File: DWPI

Oct 17, 2002

DERWENT-ACC-NO: 2003-058513

DERWENT-WEEK: 200455

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TITLE: Novel enzymatic nucleic acid that down-regulates expression of neurite growth inhibitor receptor, prostaglandin D2 receptor, IkappaB kinase or protein kinase PKR genes, for treating cancer and inflammatory disease

INVENTOR: BLATT, L; CHOWRIRA, B ; FOSNAUGH, K ; HAEBERLI, P ; MCSWIGGEN, J ; MCSWIGGEN, J A

PRIORITY-DATA: 2001US-315315P (August 28, 2001), 2001US-0827395 (April 5, 2001), 2001US-294412P (May 29, 2001), 2000US-181797P (February 11, 2000), 2001US-0780533 (February 9, 2001), 2002US-0156306 (May 28, 2002), 2002US-0224005 (August 20, 2002), 2002US-0226992 (August 23, 2002), 2002US-0230006 (August 28, 2002)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>WO 200281628 A2</u>	October 17, 2002	E	317	C12N000/00
<u>US 20030113891 A1</u>	June 19, 2003		000	A61K048/00
<u>US 20030119017 A1</u>	June 26, 2003		000	C12Q001/68
<u>US 20030143732 A1</u>	July 31, 2003		000	C12N005/06
<u>US 20030148507 A1</u>	August 7, 2003		000	C07H021/02
<u>US 20030191077 A1</u>	October 9, 2003		000	A61K048/00
<u>EP 1386004 A2</u>	February 4, 2004	E	000	C12Q001/68

INT-CL (IPC): A01 N 43/04; A61 K 31/07; A61 K 48/00; C07 H 21/02; C07 H 21/04; C12 N 0/00; C12 N 5/02; C12 N 5/06; C12 N 9/99; C12 N 15/00; C12 Q 1/68

ABSTRACTED-PUB-NO: WO 200281628A

BASIC-ABSTRACT:

NOVELTY - A nucleic acid molecule (NA) (I), preferably an enzymatic NA selected from NA that down-regulates expression or inhibits function of a receptor for neurite growth inhibitor, NA that down-regulates expression of prostaglandin D2 receptor gene or of NA encoding IkappaB kinase subunit or protein kinase PKR, and NA comprising a sequence (S1) selected from 6182 sequences given in the specification, is new.

DETAILED DESCRIPTION - A nucleic acid molecule (NA) (I), preferably an enzymatic NA selected from NA that down-regulates expression or inhibits function of a receptor for a neurite growth inhibitor, NA that down-regulates expression of a prostaglandin D2 receptor (PTGDR) gene or of NA encoding IkappaB kinase (IKK) subunit or protein kinase PKR, and NA comprising a sequence (S1) selected from 6182 sequences fully defined in the specification, such as a sequence of ggcagcaGgaggaaacucCCUUCaaggacauc-gucCGGGucccaggB.

INDEPENDENT CLAIMS are also included for the following:

(1) an antisense nucleic acid molecule (II) comprising a sequence complementary to a sequence (S2) selected from 4414 sequences fully defined in the specification, such as CAACCCCUACGAUGAAG;

(2) an expression vector (III) comprising (I) in a manner that allows the expression of (I);

(3) a mammalian cell (IV) comprising (I) or (II); and

(4) a pharmaceutical composition (V) comprising (II) or NA selected from NA that down-regulates expression of PTGDR gene or of NA encoding IKK subunit or protein kinase PKR, and NA comprising a sequence selected from 4610 sequences given in the specification.

ACTIVITY - Cytostatic; Antiinflammatory; Antirheumatic; Antiarthritic; Antiasthmatic; Antidiabetic; Immunosuppressive; Vasotropic; Anorectic; Dermatological; Neuroprotective; Nephrotropic; Antibacterial; Antiallergic.

MECHANISM OF ACTION - Down-regulator of NOGO, PKR, IKK, or PTGDR activity in a cell (claimed); Down-regulator of target gene expression; Gene therapy; Antisense therapy. No supporting data is given.

USE - (I) is useful for reducing NOGO receptor activity in a cell, for down-regulating PKR or IKK- gamma activity in a cell, for treating a patient having a condition associated with levels of NOGO receptor, PKR or IKK- gamma, for cleaving RNA encoded by NOGO receptor gene, PKR gene, IKK- gamma gene or PTGDR gene, or for administering (I) to a cell, preferably a mammalian or human cell. (I) or (II) is useful for treating conditions such as cerebrovascular accident or central nervous system (CNS) injury, where treatment of CNS injury is useful for treating spinal cord injury, for treating cancer (such as breast, lung, prostate, colorectal, brain, esophageal, stomach, bladder, pancreatic, cervical, head, neck, ovarian or multidrug resistant cancer, or melanoma, lymphoma or glioma), for treating an inflammatory disease (such as rheumatoid arthritis, restenosis, asthma, Crohn's disease, diabetes, obesity, autoimmune disease, lupus, multiple sclerosis, transplant/graft rejection, gene therapy applications, ischemia/reperfusion injury (CNS and myocardial), glomerulonephritis, sepsis, allergic airway inflammation, inflammatory bowel disease or infection), for reducing PTGDR activity in a cell, for treating a patient having a condition associated with the level of PTGDR, or for treating an allergic condition (such as asthma, allergic rhinitis, or atopic dermatitis). In addition to using (I)

or (II), other drug therapies are administered to the patient including monoclonal antibodies, IKK-gamma or PKR-specific inhibitors, chemotherapy or radiation therapy. The chemotherapy is paclitaxel, docetaxel, cisplatin, methotrexate, cyclophosphamide, doxorubin, fluorouracil carboplatin, edatrexate, gemcitabine or vinorelbine. (all claimed). (I) is also useful for down-regulating expression of a target gene such as prostaglandin D2 synthetase, adenosine receptors, NI-35, NI-220, NI-250, myelin-associated glycoprotein, tenascin-R, or NG-2, or for treating a patient having a condition associated with the level of a target gene. (I) is useful as a diagnostic tool to examine genetic drifts and mutations within diseased cells or to detect the presence of a target RNA in a cell.

Full	Title	Citation	Front	Review	Classificati	Date	Reference	Claims	KMC	Draw Des
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☐ 105. Document ID: US 20040146953 A1, WO 200258323 A2, EP 1352084 A2, AU 2002225169 A1

L14: Entry 105 of 116

File: DWPI

Jul 29, 2004

DERWENT-ACC-NO: 2002-706871

DERWENT-WEEK: 200450

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TITLE: Identifying modulators of BACE and Nogo activity for use in treating Alzheimer's disease

INVENTOR: BLACKSTOCK, W P; HALE, R S ; PRINJHA, R ; ROWLEY, A

PRIORITY-DATA: 2001GB-0001313 (January 18, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>US 20040146953 A1</u>	July 29, 2004		000	G01N033/574
<u>WO 200258323 A2</u>	July 25, 2002	E	062	H04L012/00
<u>EP 1352084 A2</u>	October 15, 2003	E	000	C12Q001/37
<u>AU 2002225169 A1</u>	July 30, 2002		000	H04L012/00

INT-CL (IPC): C12 Q 1/37; G01 N 33/574; H04 L 12/00

ABSTRACTED-PUB-NO: WO 200258323A

BASIC-ABSTRACT:

NOVELTY - Identifying ((M1) and (M2)) modulators ((X) and (Y)) of BACE and Nogo activity (BACE is an aspartyl protease also called Asp2 or Memapsin2 and Nogo proteins prevent axon sprouting in uninjured nervous systems and prevent axon regeneration in culture) for use in treating Alzheimer's disease ((M3) and (M4)).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

(1) a method (M1) of identifying a modulator of BACE function (BACE is an aspartyl protease also called Asp2 or Memapsin2), comprising:

(i) providing a BACE polypeptide (I), a Nogo polypeptide (II) and/or a test agent (III) under conditions that would permit binding of a BACE polypeptide to the Nogo polypeptide (II) in the absence of the test agent (III) (the BACE polypeptide is BACE (or variant/fragment) capable of binding Nogo and polypeptide (II) is Nogo (or variant/fragment) capable of binding BACE);

(ii) monitoring BACE mediated activity; and

- (iii) determining therefore whether the test agent is a modulator of BACE activity;
- (2) a method (M2) for identification of a modulator of Nogo (Nogo proteins prevent axon sprouting in uninjured nervous systems and prevents axon regeneration in culture) activity, comprising:
 - (i) contacting a Nogo polypeptide (or variant/fragment) which maintains a Nogo function with a test agent; and
 - (ii) monitoring for Nogo activity to determine whether the test agent is a modulator of Nogo activity;
- (3) a modulator (X) of BACE activity identified by (M1);
- (4) a modulator (Y) of Nogo activity identified by (M2);
- (5) use of (X) and (Y) in the manufacture of a medicament for the treatment or prophylaxis of Alzheimer's disease;
- (6) use of a Nogo polypeptide, or a polynucleotide encoding a Nogo polypeptide in the manufacture of a medicament for the treatment, prophylaxis or diagnosis of Alzheimer's disease (in which the Nogo polypeptide is Nogo (or variant/fragment) which is capable of binding BACE);
- (7) a method (M3) for the treatment of Alzheimer's disease, comprising administering a Nogo polypeptide, a polynucleotide encoding a Nogo polypeptide or (X) and (Y) to a human or animal in need of treatment (in which the Nogo polypeptide is Nogo (or variant/fragment) which is capable of binding BACE); and
- (8) a method (M4) for the treatment of Alzheimer's disease, comprising:
 - (i) identifying a modulator of Nogo activity; and
 - (ii) administering a therapeutically effective amount of the modulator to a patient.

ACTIVITY - Anti-Alzheimer's.

No biological data given.

MECHANISM OF ACTION - Gene therapy; protein therapy; modulation of BACE and Nogo activity.

USE - The methods (M1) and (M2) are used for identifying modulators ((X) and (Y)) of BACE and Nogo activity for use in treating Alzheimer's disease ((M3) and (M4)). BACE and Nogo polypeptides and nucleic acids may also be administered to treat Alzheimer's disease (claimed).

Full	Title	Citation	Front	Review	Classificati	Date	Reference			Claims	KWIC	Draw Des
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☐ 106. Document ID: US 20040132096 A1, WO 200257483 A2, EP 1390758 A2, AU 2002225174 A1, JP 2004520041 W

L14: Entry 106 of 116

File: DWPI

Jul 8, 2004

DERWENT-ACC-NO: 2002-599722

DERWENT-WEEK: 200445

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TITLE: Identifying modulators of Nogo or BACE activity for treating acute neuronal injuries, neoplastic or dysproliferative disorders, comprises providing and

monitoring interaction between Nogo and BACE polypeptides

INVENTOR: BLACKSTOCK, W P; HALE, R S ; PRINJHA, R ; ROWLEY, A

PRIORITY-DATA: 2001GB-0001312 (January 18, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20040132096 A1	July 8, 2004		000	G01N033/53
WO 200257483 A2	July 25, 2002	E	069	C12Q001/00
EP 1390758 A2	February 25, 2004	E	000	G01N033/68
AU 2002225174 A1	July 30, 2002		000	C12Q001/00
JP 2004520041 W	July 8, 2004		100	C12Q001/37

INT-CL (IPC): C12 Q 1/00; C12 Q 1/37; G01 N 33/15; G01 N 33/50; G01 N 33/53; G01 N 33/68

ABSTRACTED-PUB-NO: WO 200257483A

BASIC-ABSTRACT:

NOVELTY - Identifying modulators of Nogo function or BACE activity comprising providing Nogo and BACE polypeptides capable of binding with each other, monitoring the interaction between these polypeptides, and determining if the test agent is a modulator of Nogo or BACE activity, is new.

DETAILED DESCRIPTION - Identifying modulators of Nogo function or BACE activity comprising:

(a) providing Nogo and BACE polypeptides and a test agent under conditions that permits binding of the polypeptides in the absence of the test agent, where the BACE polypeptide is BACE or its variant or fragment that is capable of binding Nogo, and where Nogo polypeptide is Nogo or its variant or fragment that is capable of binding BACE; or contacting a BACE polypeptide or its variant or fragment which maintains a BACE function with a test agent;

(b) monitoring BACE and Nogo-mediated activities; and

(c) determining if the test agent is a modulator of Nogo or BACE activity.

INDEPENDENT CLAIMS are also included for the following:

(1) modulators of Nogo or BACE activity identified by the novel method; and

(2) treating acute neuronal injury or a neoplastic, hyperproliferative or dysproliferative disorder by administering a BACE polypeptide, a polynucleotide encoding a BACE polypeptide, or a modulator to a human or an animal; or identifying a modulator of BACE activity and administering this modulator to a patient.

ACTIVITY - Cytostatic; Cerebroprotective; Antipsoriatic; Hepatotropic; Vulnerary.

No biological data is given.

MECHANISM OF ACTION - Gene-Therapy; Nogo-Stimulator; Nogo-Inhibitor; BACE-Stimulator; BACE-Inhibitor.

USE - The method is useful in treating acute neuronal injuries, such as spinal or head injury, stroke, peripheral nerve damage, and in neoplastic (e.g. glioblastomas, neuroblastomas), hyperproliferative or dysproliferative disorders (e.g. cirrhosis, psoriasis, keloid formation, fibrocystic conditions, tissue hypertrophy) of the central nervous system. The BACE polypeptide is useful in screening methods to

identify agents that may act as modulators of BACE activity and in particular agents that may be useful in treating Nogo-associated diseases. (All claimed). The modulators of Nogo or BACE polypeptides, and the polynucleotide encoding the BACE polypeptide are useful in manufacturing a medicament for the treatment or prevention of disorders responsive to the modulation of Nogo activity (claimed), in alleviating the symptoms or improving the condition of a patient suffering from this disorder, in axon regeneration, or in preventing metastasis or spreading of a cancer. The polynucleotide may also be an essential component in assays, a probe, in recombinant protein synthesis, and in gene therapy techniques.

Full	Title	Citation	Front	Review	Classificati	Date	Reference		Claims	KWIC	Draw Des
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☐ 107. Document ID: US 20030124704 A1, WO 200229059 A2, AU 200211539 A, EP 1325130 A2

L14: Entry 107 of 116

File: DWPI

Jul 3, 2003

DERWENT-ACC-NO: 2002-416677

DERWENT-WEEK: 200345

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TITLE: Novel Nogo receptor homolog polypeptide, NgR2 or NgR3, useful for treating central nervous system disorder, cerebral injury, spinal cord injury, stroke, and demyelinating diseases

INVENTOR: CATE, R L; SAH, D W Y ; STRITTMATTER, S M

PRIORITY-DATA: 2000US-238361P (October 6, 2000), 2001US-0972546 (October 6, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>US 20030124704 A1</u>	July 3, 2003		000	A61K039/395
<u>WO 200229059 A2</u>	April 11, 2002	E	277	C12N015/12
<u>AU 200211539 A</u>	April 15, 2002		000	C12N015/12
<u>EP 1325130 A2</u>	July 9, 2003	E	000	C12N015/12

INT-CL (IPC): A61 K 38/17; A61 K 39/395; C07 H 21/04; C07 K 14/705; C07 K 16/28; C12 N 5/06; C12 N 9/64; C12 N 15/12; C12 N 15/62; C12 P 21/02; G01 N 33/68

ABSTRACTED-PUB-NO: WO 200229059A

BASIC-ABSTRACT:

NOVELTY - A Nogo receptor homolog polypeptide, NgR2 or NgR3 (I), comprising a 50 amino acid LRRCT sequence (S1), a 284 amino acid NTLRRCT sequence (S2), or a 420, 461 or 392 amino acid sequence (S3), all given in the specification, is new.

DETAILED DESCRIPTION - A Nogo receptor homolog polypeptide, NgR2 or NgR3 (I), comprising a 50 amino acid LRRCT sequence (S1), a 284 amino acid NTLRRCT sequence (S2), or a 420, 461 or 392 amino acid sequence (S3), all given in the specification, is new. S1 does not comprise the amino acid sequence from residue 260-309 of a 473 amino acid human NgR1 sequence, or a 473 amino acid mouse NgR1 sequence, both given in the specification, and S2 is not the sequence of human NgR1 or mouse NgR1.

INDEPENDENT CLAIMS are also included for the following:

(1) an isolated nucleic acid (II) comprising a nucleotide sequence encoding S1 or S3;

(2) an isolated nucleic acid (III) consisting essentially of a sequence complementary to a sequence encoding a polypeptide consisting of residues 311-395 of a 420 amino acid sequence, residues 256-396 of a 392 amino acid sequence, or residues 321-438 of a 461 amino acid sequence, all given in the specification, where (III) is from 8-100 nucleotides in length;

(3) a vector (IV) comprising (II);

(4) a host cell (V) comprising (IV);

(5) producing (I), comprising culturing (V) under expression conditions, and recovering the polypeptide;

(6) an antibody (VI) that binds to (I); and

(7) a composition (VII) comprising (I) or (VI).

ACTIVITY - Cerebroprotective; Neuroprotective; Cytostatic.

MECHANISM OF ACTION - Blocker of Nogo-mediated inhibition of axonal extension; gene therapy. No biological data is given.

USE - (I) or (VI) is useful for decreasing inhibition of axonal growth of a central nervous system (CNS) neuron, by contacting the neuron (I) or (VI), and for treating CNS disease, disorder or injury. (I) is useful for identifying a molecule that binds (I), by contacting (I) with the candidate molecule, and detecting binding of the candidate molecule to (I). (All claimed). (I) or (V) is useful for treating cerebral injury, spinal cord injury, stroke, demyelinating diseases, e.g. multiple sclerosis, monophasic demyelination, encephalomyelitis, multifocal leukoencephalopathy, panencephalitis, Marchiafava-Bignami disease, Spongy degeneration, Alexander's disease, Canavan's disease, metachromatic leukodystrophy and Krabbe's disease. (I) is useful for inducing an immune response in a mammal against (I), as a bait protein in a two-hybrid or three-hybrid assay, and as a research tool for identification, characterization and purification of interacting, regulatory proteins. (II) or (III) is useful for screening for restriction fragment length polymorphism (RFLP) associated with certain disorders, for genetic mapping, and for gene therapy. (V) is useful for producing non-human transgenic animals. (VI) is useful for isolating and purifying (I), for localization and/or quantitation of (I), and for diagnostic and therapeutic purposes. (I), (II), (III) or (VI) is useful for treating or preventing unregulated cellular growth such as cancer and tumor growth.

Full	Title	Citation	Front	Review	Classificati	Date	Reference	Claims	KMC	Draw Des
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☐ 108. Document ID: WO 200159103 A2, AU 200138111 A, EP 1265995 A2, US 20030060611 A1, US 20030092646 A1, JP 2003525037 W, US 20030203870 A1, US 20040009510 A1

L14: Entry 108 of 116

File: DWPI

Aug 16, 2001

DERWENT-ACC-NO: 2001-607195

DERWENT-WEEK: 200455

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TITLE: Nucleic acid molecules, e.g., enzymatic nucleic acids and antisense constructs, which down regulate expression of a CD20 gene or neurite growth inhibitor gene useful for treating, e.g., lymphoma, leukemia, and central nervous system injury

INVENTOR: BLATT, L; CHOWRIRA, B M ; HAEBERLI, P ; MCSWIGGEN, J ; JADHAV, V ; KOSSEN, K ; SEIWERT, S ; VAISH, N ; ZINNEN, S

PRIORITY-DATA: 2000US-187128P (March 6, 2000), 2000US-181797P (February 11, 2000), 2000US-185516P (February 28, 2000), 2001US-0780533 (February 9, 2001), 2001US-0780164 (February 9, 2001), 2001US-0827395 (April 5, 2001), 2002WO-US10512 (April 3, 2002), 2003US-0430882 (May 6, 2003), 2001US-0800594 (March 6, 2001), 2001US-0877526 (June 8, 2001), 2001US-0992160 (November 5, 2001), 2002US-0056761 (January 23, 2002), 2002US-0283858 (October 30, 2002), 2002US-0286492 (November 1, 2002), 2002WO-US35529 (November 5, 2002), 2003US-0422050 (April 23, 2003)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>WO 200159103 A2</u>	August 16, 2001	E	198	C12N015/11
<u>AU 200138111 A</u>	August 20, 2001		000	
<u>EP 1265995 A2</u>	December 18, 2002	E	000	C12N015/11
<u>US 20030060611 A1</u>	March 27, 2003		000	C07H021/02
<u>US 20030092646 A1</u>	May 15, 2003		000	A61K048/00
<u>JP 2003525037 W</u>	August 26, 2003		244	C12N015/09
<u>US 20030203870 A1</u>	October 30, 2003		000	A61K048/00
<u>US 20040009510 A1</u>	January 15, 2004		000	C12Q001/68

INT-CL (IPC): A61 K 31/7088; A61 K 31/7115; A61 K 31/712; A61 K 31/7125; A61 K 38/23; A61 K 39/00; A61 K 39/38; A61 K 45/00; A61 K 48/00; A61 P 7/04; A61 P 9/00; A61 P 19/02; A61 P 21/04; A61 P 25/00; A61 P 25/28; A61 P 31/18; A61 P 35/00; A61 P 35/02; A61 P 43/00; C07 H 21/00; C07 H 21/02; C07 H 21/04; C12 N 5/10; C12 N 9/00; C12 N 9/22; C12 N 15/09; C12 N 15/11; C12 Q 1/68; G01 N 33/53; G01 N 33/566; G01 N 33/58

ABSTRACTED-PUB-NO: WO 200159103A

BASIC-ABSTRACT:

NOVELTY - A nucleic acid molecule (I) which down regulates expression of a CD20 gene and a nucleic acid molecule (II) which down regulates expression of a neurite growth inhibitor gene are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a method (M1) for detecting a target molecule (TM), where the (TM) is a nucleic acid sequence, comprising:

(a) contacting the system with a diagnostic effector (DEM) molecule, where the (DEM) comprises:

(i) an enzymatic nucleic acid (EM) component comprising a substrate binding region and a catalytic region; and

(ii) a nucleic acid based inhibitor component (IC) which comprises sequence complementary to a sequence in the (EM), where the (IC) interacts with its complementary sequence in the (EM) to inhibit the activity of the (EM); and a nucleic acid based reporter molecule (RM) comprising, a sequence complementary to the substrate binding region of the (EM) component of the (DEM) where the interaction of the (RM) with the (EM) causes the cleavage of the (RM), under conditions suitable for the (TM), if present in the system, to interact with the (IC) of the (DEM), such that the (EM) can interact with the (RM) to catalyze the cleavage of the (RM); and

(b) detecting the (TM) by measuring the extent of cleavage of the (RM) by the (EM) in the presence of the (TM) compared to the cleavage in the absence of the (TM);

(2) a method (M2) for detecting a target molecule (TM), where the (TM) is a nucleic acid sequence, comprising:

(a) contacting the system; a (DEM) as in (M2); with a (RM) as in (M2) where the interaction of the (RM) with its complementary sequence in the (EM) causes the

cleavage of the (EM), under conditions suitable for the (EM) to interact with the (RM) to catalyze the cleavage of the (RM); and

(b) detecting the (TM) by measuring the extent of cleavage of the (RM) by the (EM) in the presence of the (TM) compared to the cleavage in the absence of the (TM);

(3) a kit (III) for detecting a (TM) in a system, where the (TM) is a nucleic acid sequence, comprising a (DEM) as in (M1) and (M2) and a (RM) as above labeled with chemical moiety capable of emitting a detectable signal;

(4) a mammalian cell (IV) (preferably human) including (I) or (II);

(5) an expression vector (V) comprising at least one (I) or (II); and

(6) a mammalian cell (VI) (preferably human) including (V).

ACTIVITY - Cytostatic; antiinflammatory; hemostatic; cerebroprotective; nootropic; neuroprotective; antiparkinsonian; muscular.

No supporting data given.

MECHANISM OF ACTION - Antisense therapy; triplex forming oligonucleotides; NOGO expression modulator; CD20 expression modulator; 2-5A Antisense chimera; enzymatic nucleic acids.

No supporting data given.

USE - (I) is used to cleave RNA of CD20 in the presence of a divalent cation that is preferably Mg²⁺. Furthermore, (I) may be contacted with a cell to reduce CD20 activity of the cell and treat a patient having a condition associated with the level of CD20. The treatment may further comprise the use of one or more therapies.

In particular, (I) may be used to treat lymphoma, leukemia, B-cell lymphoma, low-grade or follicular non-Hodgkin's lymphoma (NHL), bulky low-grade or follicular NHL, lymphocytic leukemia, HIV associated NHL, mantle-cell lymphoma (MCL), immunocytoma (IMC), small B-cell lymphocytic lymphoma, immune thrombocytopenia, and inflammatory arthropathy.

(II) is used to cleave RNA of NOGO gene in the presence of a divalent cation that is preferably Mg²⁺. Furthermore, (II) may be contacted with a cell to reduce NOGO activity of the cell and treat a patient having a condition associated with the level of NOGO. The treatment may further comprise the use of one or more therapies.

In particular, (II) may be used to treat central nervous system (CNS) injury and cerebrovascular accident (CVA, stroke), Alzheimer's disease, dementia, multiple sclerosis (MS), chemotherapy-induced neuropathy, amyotrophic lateral sclerosis (ALS), Parkinson's disease, ataxia, Huntington's disease, Creutzfeldt-Jakob disease, muscular dystrophy, and/or other neurodegenerative disease states which respond to the modulation of NOGO expression.

For treatment of CNS injury or CVA and stroke, (II) is preferably in a HH motif and the treatment further comprises administering (II) in conjunction with one or more therapies (all claimed).

Full	Title	Citation	Front	Review	Classificati	Date	Reference	Claims	KWIC	Draw Des
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☐ 109. Document ID: ZA 200205403 A, WO 200151520 A2, AU 200129401 A, US 20020012965 A1, US 20020077295 A1, NO 200203387 A, EP 1248803 A2, CZ 200202438 A3, BR 200107613 A, KR 2002097157 A, HU 200203863 A2, SK 200200999 A3, JP 2003519481 W, CN 1404488 A

DERWENT-ACC-NO: 2001-442138

DERWENT-WEEK: 200426

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TITLE: Novel Nogo receptor protein useful for identifying modulator of Nogo protein or Nogo receptor protein, which is useful for treating central nervous system disorders

INVENTOR: STRITTMATER, S M; STRITIMATTER, S M ; STRITTMATTER, S M

PRIORITY-DATA: 2000US-236378P (September 29, 2000), 2000US-175707P (January 12, 2000), 2000US-207366P (May 26, 2000), 2001US-0758140 (January 12, 2001), 2001WO-US01040 (January 12, 2001), 2001US-0972599 (October 6, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<u>ZA 200205403 A</u>	March 31, 2004		257	C07K000/00
<u>WO 200151520 A2</u>	July 19, 2001	E	109	C07K014/705
<u>AU 200129401 A</u>	July 24, 2001		000	C07K014/705
<u>US 20020012965 A1</u>	January 31, 2002		000	C12Q001/00
<u>US 20020077295 A1</u>	June 20, 2002		000	A61K038/17
<u>NO 200203387 A</u>	September 11, 2002		000	C07K014/705
<u>EP 1248803 A2</u>	October 16, 2002	E	000	C07K014/71
<u>CZ 200202438 A3</u>	October 16, 2002		000	C07K014/705
<u>BR 200107613 A</u>	November 19, 2002		000	C07K014/705
<u>KR 2002097157 A</u>	December 31, 2002		000	C12N015/12
<u>HU 200203863 A2</u>	March 28, 2003		000	C07K014/71
<u>SK 200200999 A3</u>	May 2, 2003		000	C07K014/705
<u>JP 2003519481 W</u>	June 24, 2003		146	C12N015/09
<u>CN 1404488 A</u>	March 19, 2003		000	C07K014/71

INT-CL (IPC): A01 K 67/027; A61 K 38/00; A61 K 38/17; A61 K 38/22; A61 K 39/395; A61 P 25/00; A61 P 43/00; C07 H 21/04; C07 K 0/00; C07 K 14/47; C07 K 14/705; C07 K 14/71; C07 K 16/18; C07 K 16/28; C07 K 19/00; C12 N 1/15; C12 N 1/19; C12 N 1/21; C12 N 5/06; C12 N 5/10; C12 N 9/00; C12 N 15/09; C12 N 15/12; C12 N 15/63; C12 P 21/02; C12 Q 1/00; C12 Q 1/02; G01 N 33/53; G01 N 33/566; G01 N 33/567

ABSTRACTED-PUB-NO: US20020012965A

BASIC-ABSTRACT:

NOVELTY - An isolated Nogo receptor polypeptide (I), comprising a 473, 40, 25 or 66 residue amino acid sequence (S1), fully defined in the specification, a fragment of at least 6 amino acids of S1, a sequence comprising S1 with one or more conservative amino acid substitutions or one or more naturally occurring amino acid sequence substitutions, or a sequence having at least 75% homology to S1, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated nucleic acid molecule (II) comprising a sequence encoding S1, a sequence encoding a fragment of at least 6 amino acids of S1, a sequence that hybridizes to a nucleic acid molecule comprising the complement of a 1719, 1866, 75, 120 or 198 nucleotide sequence (S2), all fully defined in the specification under high stringency conditions, or a sequence having at least 75 % sequence homology to S2;

- (2) a vector (III) comprising (II);
- (3) a host cell (IV) transformed to contain (II), or comprising (III);
- (4) producing (I), comprising culturing (IV) under expression conditions, and recovering the protein;
- (5) an isolated polypeptide produced by the method of (4);
- (6) a chimeric polypeptide (Ia) comprising (I);
- (7) a pharmaceutical composition (PC) comprising (I);
- (8) an antibody (Ab) that binds to (I);
- (9) a non-human transgenic animal (V) comprising (II);
- (10) identifying an agent (A) which modulates expression or activity of Nogo protein or Nogo receptor protein, by providing a cell expressing a Nogo protein or Nogo receptor protein, contacting the cell with a candidate agent, and detecting an increase or decrease in the level of expression or activity of Nogo protein or Nogo receptor protein in the presence of the candidate agent relative to the level of expression or activity of Nogo protein or Nogo receptor protein in the absence of the candidate agent;
- (11) identifying a binding partner for a Nogo receptor protein, by providing a Nogo receptor protein, contacting the protein with a candidate binding partner, and detecting the binding of candidate binding partner to the protein; and
- (12) an isolated polypeptide (Ib) that specifically binds to Nogo receptor protein, where the specific binding of the peptide to the receptor protein affects the inhibition of binding of Nogo protein to Nogo receptor protein, blockade of Nogo-mediated inhibition of axonal growth, modulation of Nogo protein expression or modulation of Nogo receptor protein expression.

ACTIVITY - Cerebroprotective; vulnerary; neuroprotective; antiinflammatory.

MECHANISM OF ACTION - Inhibitor of axonal growth; inhibitor of Nogo expression (claimed).

Inhibitory effect of recombinant Nogo expressed in human embryonic kidney (HEK)293T cells on axon outgrowth was determined. Washed membrane fractions from vector- or hNogo-A-Myc-transfected HEK293T cells were added to chick E12 dorsal root ganglion explant cultures. Growth cone morphology was assessed after a 30-minute incubation at 37 deg. C by fixation and rhodamine-phalloidin staining. The control HEK membranes had no detectable effect on growth cone morphology. The Nogo-A-containing membrane fractions induced collapse of majority of dorsal root ganglion growth cones.

USE - (A) is useful for treating a central nervous system disorder which is a result of cranial or cerebral trauma, spinal cord injury, stroke or a demyelinating disease selected from multiple sclerosis, monophasic demyelination, encephalomyelitis, multifocal leukoencephalopathy, panencephalitis, Marchiafava-Bignami disease, pontine myelinolysis, adrenoleukodystrophy, Pelizaeus-Merzbacher disease, Spongy degeneration, Alexander's disease, Canavan's disease, metachromatic leukodystrophy and Krabbe's disease (claimed).

ABSTRACTED-PUB-NO:

US20020077295A EQUIVALENT-ABSTRACTS:

NOVELTY - An isolated Nogo receptor polypeptide (I), comprising a 473, 40, 25 or 66 residue amino acid sequence (S1), fully defined in the specification, a fragment of at least 6 amino acids of S1, a sequence comprising S1 with one or more conservative amino acid substitutions or one or more naturally occurring amino acid sequence

substitutions, or a sequence having at least 75% homology to S1, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) an isolated nucleic acid molecule (II) comprising a sequence encoding S1, a sequence encoding a fragment of at least 6 amino acids of S1, a sequence that hybridizes to a nucleic acid molecule comprising the complement of a 1719, 1866, 75, 120 or 198 nucleotide sequence (S2), all fully defined in the specification under high stringency conditions, or a sequence having at least 75 % sequence homology to S2;
- (2) a vector (III) comprising (II);
- (3) a host cell (IV) transformed to contain (II), or comprising (III);
- (4) producing (I), comprising culturing (IV) under expression conditions, and recovering the protein;
- (5) an isolated polypeptide produced by the method of (4);
- (6) a chimeric polypeptide (Ia) comprising (I);
- (7) a pharmaceutical composition (PC) comprising (I);
- (8) an antibody (Ab) that binds to (I);
- (9) a non-human transgenic animal (V) comprising (II);
- (10) identifying an agent (A) which modulates expression or activity of Nogo protein or Nogo receptor protein, by providing a cell expressing a Nogo protein or Nogo receptor protein, contacting the cell with a candidate agent, and detecting an increase or decrease in the level of expression or activity of Nogo protein or Nogo receptor protein in the presence of the candidate agent relative to the level of expression or activity of Nogo protein or Nogo receptor protein in the absence of the candidate agent;
- (11) identifying a binding partner for a Nogo receptor protein, by providing a Nogo receptor protein, contacting the protein with a candidate binding partner, and detecting the binding of candidate binding partner to the protein; and
- (12) an isolated polypeptide (Ib) that specifically binds to Nogo receptor protein, where the specific binding of the peptide to the receptor protein affects the inhibition of binding of Nogo protein to Nogo receptor protein, blockade of Nogo-mediated inhibition of axonal growth, modulation of Nogo protein expression or modulation of Nogo receptor protein expression.

ACTIVITY - Cerebroprotective; vulnerary; neuroprotective; antiinflammatory.

MECHANISM OF ACTION - Inhibitor of axonal growth; inhibitor of Nogo expression (claimed).

Inhibitory effect of recombinant Nogo expressed in human embryonic kidney (HEK)293T cells on axon outgrowth was determined. Washed membrane fractions from vector- or hNogo-A-Myc-transfected HEK293T cells were added to chick E12 dorsal root ganglion explant cultures. Growth cone morphology was assessed after a 30-minute incubation at 37 deg. C by fixation and rhodamine-phalloidin staining. The control HEK membranes had no detectable effect on growth cone morphology. The Nogo-A-containing membrane fractions induced collapse of majority of dorsal root ganglion growth cones.

USE - (A) is useful for treating a central nervous system disorder which is a result of cranial or cerebral trauma, spinal cord injury, stroke or a demyelinating disease selected from multiple sclerosis, monophasic demyelination, encephalomyelitis, multifocal leukoencephalopathy, panencephalitis, Marchiafava-Bignami disease, pontine

myelinolysis, adrenoleukodystrophy, Pelizaeus-Merzbacher disease, Spongy degeneration, Alexander's disease, Canavan's disease, metachromatic leukodystrophy and Krabbe's disease (claimed).

NOVELTY - An isolated Nogo receptor polypeptide (I), comprising a 473, 40, 25 or 66 residue amino acid sequence (S1), fully defined in the specification, a fragment of at least 6 amino acids of S1, a sequence comprising S1 with one or more conservative amino acid substitutions or one or more naturally occurring amino acid sequence substitutions, or a sequence having at least 75% homology to S1, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) an isolated nucleic acid molecule (II) comprising a sequence encoding S1, a sequence encoding a fragment of at least 6 amino acids of S1, a sequence that hybridizes to a nucleic acid molecule comprising the complement of a 1719, 1866, 75, 120 or 198 nucleotide sequence (S2), all fully defined in the specification under high stringency conditions, or a sequence having at least 75 % sequence homology to S2;
- (2) a vector (III) comprising (II);
- (3) a host cell (IV) transformed to contain (II), or comprising (III);
- (4) producing (I), comprising culturing (IV) under expression conditions, and recovering the protein;
- (5) an isolated polypeptide produced by the method of (4);
- (6) a chimeric polypeptide (Ia) comprising (I);
- (7) a pharmaceutical composition (PC) comprising (I);
- (8) an antibody (Ab) that binds to (I);
- (9) a non-human transgenic animal (V) comprising (II);
- (10) identifying an agent (A) which modulates expression or activity of Nogo protein or Nogo receptor protein, by providing a cell expressing a Nogo protein or Nogo receptor protein, contacting the cell with a candidate agent, and detecting an increase or decrease in the level of expression or activity of Nogo protein or Nogo receptor protein in the presence of the candidate agent relative to the level of expression or activity of Nogo protein or Nogo receptor protein in the absence of the candidate agent;
- (11) identifying a binding partner for a Nogo receptor protein, by providing a Nogo receptor protein, contacting the protein with a candidate binding partner, and detecting the binding of candidate binding partner to the protein; and
- (12) an isolated polypeptide (Ib) that specifically binds to Nogo receptor protein, where the specific binding of the peptide to the receptor protein affects the inhibition of binding of Nogo protein to Nogo receptor protein, blockade of Nogo-mediated inhibition of axonal growth, modulation of Nogo protein expression or modulation of Nogo receptor protein expression.

ACTIVITY - Cerebroprotective; vulnerary; neuroprotective; antiinflammatory.

MECHANISM OF ACTION - Inhibitor of axonal growth; inhibitor of Nogo expression (claimed).

Inhibitory effect of recombinant Nogo expressed in human embryonic kidney (HEK)293T cells on axon outgrowth was determined. Washed membrane fractions from vector- or hNogo-A-Myc-transfected HEK293T cells were added to chick E12 dorsal root ganglion explant cultures. Growth cone morphology was assessed after a 30-minute incubation at

37 deg. C by fixation and rhodamine-phalloidin staining. The control HEK membranes had no detectable effect on growth cone morphology. The Nogo-A-containing membrane fractions induced collapse of majority of dorsal root ganglion growth cones.

USE - (A) is useful for treating a central nervous system disorder which is a result of cranial or cerebral trauma, spinal cord injury, stroke or a demyelinating disease selected from multiple sclerosis, monophasic demyelination, encephalomyelitis, multifocal leukoencephalopathy, panencephalitis, Marchiafava-Bignami disease, pontine myelinolysis, adrenoleukodystrophy, Pelizaeus-Merzbacher disease, Spongy degeneration, Alexander's disease, Canavan's disease, metachromatic leukodystrophy and Krabbe's disease (claimed).

WO 200151520A

Full	Title	Citation	Front	Review	Classificati	Date	Reference	Claims	KWIC	Draw Des
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☐ 110. Document ID: WO 200136631 A1, EP 1147192 A1

L14: Entry 110 of 116

File: DWPI

May 25, 2001

DERWENT-ACC-NO: 2001-343822

DERWENT-WEEK: 200171

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TITLE: New polypeptide designated NOGO-C is a splice variant of the human NOGO gene and may be useful in the treatment of neural disorders including Alzheimer's and Parkinson's diseases

INVENTOR: MICHALOVICH, D; PRINJHA, R

PRIORITY-DATA: 2000GB-0001550 (January 24, 2000), 1999GB-0026995 (November 15, 1999)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200136631 A1	May 25, 2001	E	025	C12N015/12
EP 1147192 A1	October 24, 2001	E	000	C12N015/12

INT-CL (IPC): C07 K 14/47; C07 K 16/18; C12 N 15/12

ABSTRACTED-PUB-NO: WO 200136631A

BASIC-ABSTRACT:

NOVELTY - An isolated polypeptide (P1) encoded by a polynucleotide comprising a 600 nucleotide sequence (S1), or having a 199 residue amino acid sequence (S2), both fully defined in the specification, or its fragment or variant, is new

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide:

(a) encoding S2;

(b) having S1; or

(c) that is a fragment, variant or complement of (a) or (b);

(2) an expression system comprising a polynucleotide capable of producing P1 when in a host cell;

(3) producing P1, comprising culturing host cell containing the system of (2), and recovering P1;

(4) an antibody immunospecific for P1; and

(5) screening to identify compounds, comprising:

(a) detecting binding of a candidate compound to P1, or cells or membranes bearing P1, or a P1 fusion protein using a label associated with the compound;

(b) measuring binding of to P1, or cells or membranes bearing P1, or a P1 fusion protein in the presence of a labeled competitor;

(c) testing if a candidate compound results in a signal generated by P1 activation or inhibition;

(d) detecting the effect of a candidate compound on production of mRNA encoding P1; or

(e) mixing a candidate compound with a solution containing P1, and measuring P1 activity.

ACTIVITY - Neuroprotective; nootropic; antiParkinsonian; cerebroprotective; neuroleptic.

No biological data is given.

MECHANISM OF ACTION - None given.

USE - NOGO-C polypeptides and polynucleotides may be used in the treatment of diseases including neuropathies, spinal injury, brain injury, stroke, neuronal degeneration, for example Alzheimer's and Parkinson's, neuromuscular disorders, psychiatric disorders and developmental disorders.

Full	Title	Citation	Front	Review	Classificati	Date	Reference	Claims	KMMC	Draw. Des.
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☐ 111. Document ID: NZ 511683 A, WO 200031235 A2, AU 200014692 A, NO 200102223 A, EP 1124846 A2, CZ 200101608 A3, SK 200100622 A3, KR 2002003353 A, CN 1354755 A, HU 200301829 A2, MX 2001004598 A1, JP 2003531566 W, BR 9915137 A

L14: Entry 111 of 116

File: DWPI

Jun 25, 2004

DERWENT-ACC-NO: 2000-400052

DERWENT-WEEK: 200445

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TITLE: Nogo proteins and nucleic acids useful for treating neoplastic disorders of the central nervous system and inducing regeneration of neurons

INVENTOR: CHEN, M S; SCHWAB, M E

PRIORITY-DATA: 1998US-107446P (November 6, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
NZ 511683 A	June 25, 2004		000	C07K007/00
WO 200031235 A2	June 2, 2000	E	122	C12N000/00
AU 200014692 A	June 13, 2000		000	

NO 200102223 A	July 2, 2001	000	C12N000/00
EP 1124846 A2	August 22, 2001	E 000	C07K007/00
CZ 200101608 A3	October 17, 2001	000	C12N015/12
SK 200100622 A3	December 3, 2001	000	C07K007/00
KR 2002003353 A	January 12, 2002	000	C07K014/475
CN 1354755 A	June 19, 2002	000	C07K007/00
HU 200301829 A2	August 28, 2003	000	C07K007/00
MX 2001004598 A1	May 1, 2002	000	C12N000/00000
JP 2003531566 W	October 28, 2003	152	C12N015/09
BR 9915137 A	June 8, 2004	000	C07K007/00

INT-CL (IPC): A01 K 67/027; A61 K 31/7088; A61 K 38/00; A61 K 48/00; A61 P 25/28; A61 P 35/00; C07 K 7/00; C07 K 14/00; C07 K 14/435; C07 K 14/47; C07 K 14/475; C07 K 14/82; C07 K 19/00; C12 N 0/00; C12 N 0/00000; C12 N 1/15; C12 N 1/19; C12 N 1/21; C12 N 5/10; C12 N 15/09; C12 N 15/12; C12 P 21/02; C12 P 21/02; C12 R 1:91

ABSTRACTED-PUB-NO: WO 200031235A
BASIC-ABSTRACT:

NOVELTY - Nogo protein (P1) free of all central nervous system (CNS) myelin material with which it is natively associated, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) a purified Nogo C protein;
- (2) a protein (P2) comprising an amino acid (aa) sequence with at least one conservative substitution in sequence (I), (II) or (III) given in the specification, and can be bound by an antibody directed against a Nogo protein with sequence (I), residues 1-172 fused to 975-1163 of (I) or residues 1-199 of (III);
- (3) a purified fragment of (P1) or Nogo C protein which is able to be bound by an antibody directed against a Nogo protein;
- (4) a purified protein comprising a fragment of a Nogo protein with aa sequence of residues 31-57, 988-1023 or 1090-1125 of (I), 11-191 of (III) or 994-1174, 977-1012 or 1079-1114 of (II);
- (5) a chimeric protein comprising a fragment of (P1), (P2) or Nogo C protein which is able to be bound by an antibody directed against a Nogo protein, fused by a covalent bond to at least a portion of a second protein different to the fragment of (P1) or Nogo C;
- (6) a purified molecule comprising a fragment of (P1), (P2) or Nogo C protein which is able to be bound by an antibody directed against a Nogo protein;
- (7) an isolated nucleic acid (N1) comprising one of 2 defined nucleotide sequences given in the specification encoding rat Nogo proteins;
- (8) an isolated nucleic acid (N2) comprising:
 - (a) a nucleotide sequence that encodes a polypeptide with aa sequence consisting of residues 1-1163 of (I), 1-172 of (I) fused to residues 975-1163 of (I) or residues 1-199 of (III);
 - (b) or the complement of the nucleotide sequence of (a);
- (9) an isolated nucleic acid (N3) capable of hybridizing to a second nucleic acid which has a nucleotide sequence complementary to a sequence that encodes a polypeptide with aa sequence consisting of residues 1-1163 of (I), 1-172 fused to

residues 975-1163 of (I) or residues 1-199 of (III), and encodes a naturally occurring protein which can be bound by an antibody to a protein with aa sequence (I);

(10) an isolated first nucleic acid (N4) that encodes a protein which can be bound by an antibody directed against a protein with aa sequence (I) and is hybridizable to a second nucleic acid with a nucleotide sequence given in the specification for rat or bovine Nogo;

(11) an isolated nucleic acid (N5) encoding a naturally occurring protein able to be bound by an antibody to a protein with aa sequence (I), and with greater than 70% nucleotide sequence homology to a sequence encoding a polypeptide with aa sequence consisting of residues 1-1163 of (I), 1-172 of (I) fused to residues 975-1163 of (I) or residues 1-199 of (III) as determined by a BLAST computer algorithm;

(12) an isolated nucleic acid (N6) comprising a nucleotide sequence encoding a fragment of a Nogo protein that displays one or more functional activities of the Nogo protein which is not a human, Drosophila or Caenorhabditis elegans Nogo protein;

(13) an isolated nucleic acid (N7) comprising a nucleotide sequence encoding a protein comprising an aa sequence with a greater than 50% homology to the aa sequence (II) as determined by a BLAST computer algorithm;

(14) an isolated nucleic acid (N8) encoding at least 220 continuous aa residues of (I);

(15) an isolated nucleic acid sequence (N8) comprising the nucleotide sequences of at least 2 non-overlapping human expressed sequence tags which are AA158636, AA333267, AA081783, AA167765, AA322918, AA092565, AA081525 or AA081840 all given in the specification;

(16) a vector comprising (N1), (N2) or (N3) operatively linked to a non-native promoter;

(17) an expression vector comprising (N1), (N2) or (N3);

(18) a recombinant cell transformed with (N1), (N2) or (N3);

(19) a method of producing a recombinant protein comprising culturing the cell of (18) so that the protein encoded by the nucleic acid is expressed in the cell and recovering the expressed protein;

(20) a method of treating a subject with a neoplastic disease of the CNS comprising administering a Nogo protein or fragment free of all CNS myelin material, where the protein is active in inhibiting cell proliferation;

(21) a recombinant non-human animal produced through the introduction of a nucleic acid encoding at least a domain of a Nogo protein into the genome of the animal, or a progeny of the animal;

(22) a recombinant non-human animal in which a Nogo gene has been inactivated or deleted;

(23) a purified fragment of a Nogo protein:

(i) comprising an aa sequence consisting of residues 1-171, 172-974, 259-542, 542-722, 172-259, 722-974 or 975-1162 of (I) and free of all CNS myelin material;

(ii) lacking residues 172-259 and/or 974-1162 of (I) but otherwise comprises the remainder of (I) and free of all CNS myelin material;

(iii) comprising an aa sequence consisting of residues 1-131, 132-939, 206-501, 501-

680, 132-206, 680-939 or 940-1127 of (II) free of all CNS myelin material;

(iv) lacking residues 132-206 and/or 939-1127 of (II) but otherwise comprises the remainder of (II) free of all CNS myelin material;

(24) an isolated nucleic acid encoding the protein fragments of (23);

(25) a vector comprising the nucleic acid of (24);

(26) a recombinant cell transformed with the nucleic acid of (24); and

(27) a fusion protein comprising the fragments of (23) which are of sequence (II) fused to an aa sequence of a non-Nogo protein.

(I) has a defined sequence of 1163 aa. Sequences (II) and (III) are undefined but given in the specification.

ACTIVITY - Antiproliferative.

No suitable data is given.

MECHANISM OF ACTION - Antisense gene therapy.

USE - Nogo proteins and fragments are used to treat subjects, preferably humans with a neoplastic disease of the CNS e.g. glioma, glioblastoma, medulloblastoma, craniopharyngioma, ependyoma, pinealoma, hemangioblastoma, acoustic neuroma, oligodendroglioma, meningioma, neuroblastoma or retinoblastoma (claimed). Premalignant tumors can be treated to prevent progression to a malignant or neoplastic state. Ribozymes or antisense Nogo nucleic acid can be used to inhibit production of Nogo protein in a subject to induce regeneration or sprouting of neurons or to promote structural plasticity of the CNS (claimed) in disorders where neurite growth, regeneration or maintenance are deficient or desired. Fragments of (I) and (II) with regions of the protein deleted display neurite growth inhibitory activity and can be used to treat degenerative nerve diseases e.g. Alzheimer's and Parkinson's diseases.

Therapeutics which promote Nogo activity can be used to treat or prevent hyperproliferative or benign dysproliferative disorders e.g. psoriasis and tissue hypertrophy.

The animal models can be used in diagnostic and screening methods for predisposition to disorders and to screen for or test molecules which can treat or prevent disorders or diseases of the CNS.

Full	Title	Citation	Front	Review	Classificati	Date	Reference		Claims	KWIC	Draw Des
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☐ 112. Document ID: US 3512704 A

L14: Entry 112 of 116

File: USOC

May 19, 1970

US-PAT-NO: 3512704

DOCUMENT-IDENTIFIER: US 3512704 A

TITLE: MOVEMENT VERIFICATION SYSTEM

DATE-ISSUED: May 19, 1970

US-CL-CURRENT: 234/33

DOCUMENT TEXT:

May 19, 1970 J. D. HAYS E.7AL 39512i704 MOVEMENT VERIFICATION SYSTEM Filed Aug. 29,

http://westbrs:9000/bin/cgi-bin/accum_query.pl

9/30/04

1968 3 Sheets-Sheet 1 26 FIG. 1 12 17 19 1Ck@10 12 i4-- 1 23 22 - I- -r , ") ? F, I
G. 2 24- , .!- 24,, 1 6 1 7 4 2 J2,r@ 26 35 -@-20 21-, 1 FIGO,3 29, > -- - - - - -27
a < w > --28 w 250 290 270 26r280 290 3,00 310 - INVENTORS J O H N D 28'8 B E R N A R
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May 19, 1970 J. D. HAYS ET AL 315129704 MOVEMENT VERIFICATION SYSTEM Filed Aug. 29,
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III INVENTORS ol IJOHN D. HAYS, !@ I IB ERNARD J. HAUSFELD Ek IZEBULON V.
SCARBOROUGH x I @.@/ I w L- - - - - -tn BY THF IR ATT OR NEY S

May 19, 1970 J. D. HAYS ET AL 315@12 704 MOVEMENT VERIFICATION SYSTEM Filed Aug. 29,
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0 cli If C\l z -J cno LD Z cwn Z-i zu w (n 0 Ir z 0 w OLLJ cc 0 60 x (n w w INVENTORS
JOHN D. HAYS, BERNARD J. HAUSFELD a ZESULON V. SCARBOROUGH BY THEIR ATTORNEYS

0 31512@704 Uiiited States Patent Office Patented May 19, 1970 3,512,704 MOVEMENT
VERIFICATION SYSTEM John D. Hays, Troy, and Bernard J. Hausfeld and Zebulon V.
Scarborough, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, 5
Ohio, a corporation of Maryland Filed Aug. 29, 1968, Ser. No. 756,241 Int. Cl. G06k
5102 U.S. Cl. 234-33 15 Claims 10 ABSTRACT OF THE DISCLOSURE An improved system for
verifying the occurrence of consummated movement in machine members which may be
driven by impact or non-positive displace-ment is dis- closed. Alternate detector
embodiments each responsive 15 to changes in two properties of a sensing coil are
dis- closed; the system develops output signals indicative of machine movement and
instantaneous machine posi- tion. A high-efficiency excitation source for driving
mul- tiple sensing coils and a means of signal transmission 20 with high noise
immunity are disclosed for one detector embodiment. CROSS-REFERENCE TO RELATED
APPLICATIONS`25 The present verification and sensing system is em- ployable with the
media-perforating mechanism disclosed in United States patent application Ser. No.
663,159, filed Aug. 24, 1967, in the names of John D. Hays and Robert E. Vance and
assigned to the same assignee as 30 the present invention. BACKGROUND OF THE
INVENTION Field of the invention 35 The present invention relates to an
electromagnetic movement transducer system employing an undulating or pulsed energy
source for the excitation thereof. The system operates upon the principle of serising
change in a plurality of electrical properties of a sensing coil when 40 the coil's
magnetic field is influenced by external mem- b ers. Description of the prior art S
everal classes of motion-sensing and -verifying de- v ices are revealed in the prior
art. The most significant 4 5 o f these devices may be identified and distinguished
from t he present invention as follows: U.S. Pat. No. 3,159,337, issued on Dec. 1,
1S)64, on t he application of John H. MacNeill et al., discloses a s ensor for use in
a paper tape punch. The MacNeill et al. 5 0 s ensor employs a permanent magnetic
member aaid pro- d uces an output signal only when the punching member is in motion.
The MacNeill sensor does not provide a st atic indication of moving member position;
it does not e mploy resonance or any other means for detecting the 5 5 s ensing coil
loss component that is important in the p resent invention. U.S. Pat. No. 3,245,615,
issued on Apr. 12, 1966, on t he application of Hans Heymann, discloses a motion s
ensor system for use in a media-punching machine, such 6 0 a s a paper tape punch. In
the Heymann sensor, a perma- n ent magnet mounted on the moving machine member is
used to change the magnetic state of a ferrite core member. Because of the non-linear
properties of the fer- ri te core, the Heyman sensor is useful only in providing 6 5
a Yes-No indication of punch motion. The hysteresis p roperties of the ferrite core
in the Heymann patent make the unaided system itself incapable of detecting d
eparture of the moving member from the sensed posi- ti on of its motion; a special
sequence of reset and inte@r- 7 0 rogate pulses is requiired to overcome this
limitation. In 2 summary, the ferrite core, the permanent magnet, and the readout or
detector circuit of the Heymann system contrast with the structure of the present
invention. U.S. Patent No. 2,609,433, issued on Sept. 2, 1952, on the application of
Harold W. Goff, discloses a movement sensor system for use with a media-punching
system. The Goff system causes one or more movable members to be displaced into the
magnetic field of a coil, so as to change the inductance of the coil and change the
phase relation 'between current and voltage of a signal impressed across the coil.

The Goff sensor specifies use of an A.C. bridge circuit in an inductance-measuring configuration but does not utilize electrical losses in the sensing coil to distinguish between displaced and non-displaced positions of the movable member. The Goff bridge circuit is coupled to a vacuum tube and an electromechanical relay. If the Goff sensing system is employed where multiple moving members are to be sensed in a machine, only one sensing coil is utilized, in contrast with the multiple sensing coils of the present invention; the Goff system attempts to distinguish the number of mechanical members displaced into the sensing coil, there being a different system output for one and for more than one displaced member. The Goff system would have difficulty in distinguishing the difference between one fully displaced member and two partially displaced members. . The structural distinctions of incorporating a bridge circuit measuring only inductance, a vacuum tube, and a single large sensing coil distinguish the Goff system from the present invention. U.S. Pat. No. 2,293,708, issued on Aug. 25, 1942, on the application of Andrew L. Brown, discloses a motion-verifying system applied to a telegraph printer mechanism. Brown's invention employs a mechanically driven capacitor to vary the resonant frequency of a vacuum tube oscillator circuit. The Brown system does not recognize loss changes in the resonant circuit. The Brown system does not provide structural embodiments of a sensing coil or a detector means capable of providing analog output signal. SUMMARY OF THE INVENTION Intermittent mechanisms having a multiplicity of rapidly moving parts are increasingly common in modern equipment; steadily increasing ability to assimilate mechanism control data at rapid rates creates a continuing need for mechanisms to operate at a faster rate. As operating rates increase with intermittent mechanisms, the use of inertia drive, impact energy transfer, ballistic moving members, and other non-positive displacement systems is desirable. These non-positive displacement systems, together with rapid movement which is beyond direct human sensing ability, give rise to a need for sensing and verifying by electronic methods that movement of the driven machine member has occurred. Sensing of machine member motion is often desirable in both an operational environment and an engineering or design environment. In an operating machine, some means to evoke human intervention upon the malfunction of a remotely located machine member is a common requirement. In an engineering effort, it is common to require data concerning velocity, acceleration, and distance traveled by a machine member during its operating cycle and during periods of overshoot, bounce, and impact with another machine member. Peripheral equipment for electronic data-processing systems, textile manufacturing machinery, packaging machinery, and automated manufacturing equipment are typical examples of high-speed machines which have need for motion-sensing and -verifying systems.

3 Machines which achieve rapid mechanical motion by means of electrical excitation often afford a hostile environment for a sensitive, low-level motion-verifying system; the high rates of energy transfer commonly employed in these machines is inherently conducive to coupling large noise signals into the verifying system. In the computer peripheral equipment field, where fast movements for punching, printing, diverting and positioning are common, it is possible to observe ready examples of these verification difficulties. The present verification system offers unique immunity to such noise problems in one embodiment. The present invention relates to a motion-verifying system which is applicable to any of the above types of machinery. It is applicable for sensing either Go, NoGo operation or for sensing, with high resolution, the motion of a machine member, or the relative motion between two machine members. Prior-art systems which are devoted to Go, No-Go applications have found difficulty in distinguishing between the sensed machine member being departed from its home position and being fully extended. -In applications these two conditions are synonymous or do not require distinction, these prior-art systems are satisfactory; however, many of the applications suggested above require Go, No-Go indication of fully extended position rather than merely departure from home position. The present system affords an arrangement which is capable of indicating fully extended position or any desired intermediate position. The present system operates on an electromagnetic principle but without the use of magnetized machine members. The system employs an undulating current excitation source for a sensing coil operated in the variable inductance, variable Q mode and provides in one embodiment a noise-immune means to transport the sensed signal to a distant detector. BRIEF DESCRIPTION OF THE DRAWINGS FIG. 1 in the drawings shows a directly activated media-perforating mechanism having a sensing coil according to the present invention

associated therewith. FIG. 2 in the drawings shows a functional schematic diagram of one embodiment of the present invention. FIG. 3 in the drawings shows two bell-shaped resonant circuit response curves typical of curves obtainable from the tuned circuit of one embodiment of the present invention. FIG. 4 in the drawings shows a schematic diagram of the excitation source, sensing coil sensor, and detector means of the preferred embodiment of the present invention. FIG. 5 in the drawings shows a block diagram of the essential elements in the present sensing system. FIG. 6 in the drawings shows a schematic diagram of the present sensing system wherein a double null sensing bridge circuit is employed as detector means.

DESCRIPTION OF THE PREFERRED EMBODIMENT In FIG. 5 of the drawings, a block diagram of the essential elements of the present system is shown. As disclosed in this figure, the system is composed of three elements- an excitation source 16, a sensing coil 17, and a detector means 21. Leads intercoupling signals between these three elements are shown at 41, 42, 30, and 67. The intercoupling leads 30 and 67 in FIG. 5 are shown dotted, since they are inherent in the grounding of components and optional in some embodiments of the invention respectively. FIG. 5 is a generic representation of several embodiments which may be employed with the present invention; all of these embodiments are composed of the three elements shown in FIG. 5, although the embodiment with- 3)512)704 4 in the detector means and the excitation source - differs. In FIG. 1 of the drawings, a sensing coil 17, having terminals 26 and constituting part of the verification system, is shown incorporated into a paper tape punch. The punch shown in FIG. 1 operates by exciting the solenoid coil 18 at its terminals 19, so that the armature 15 is caused to move closer to the pole piece and thereby close the air gap 10 between the armature and the pole piece. Movement of the armature 15 causes the punching member 10 to be driven through the paper tape medium 13 into the anvil member 14. Guides, shown at 12, restrict the motion of the punching pin to the vertical plane. The mechanism shown in FIG. 1 represents a high-speed direct-acting punch; a punch free of interposers or other mechanical linkage, the mechanism operates with small movements at very high speeds; the air gap 10 measuring 0.015 to 0.030 inch, and the armature movement occurring within a time of two milliseconds, in a practical embodiment of such a punch. 20 -It is obvious that verification of motions so small and occurring at this rate of speed must be accomplished by automatic systems rather than by manual observation. This is especially true in computer applications where the paper tape punch may be located remote from the operator. The sensing coil 17, located close to the punch mechanism in FIG. 1, comprises the means for introducing punch armature motion into the electronic system of the present invention. The coil is located physically adjacent 30 to the moving armature 15 and is closely magnetically coupled with the movable armature, as indicated by the arrow through the coil 17. Movement of the armature 15 within the field of the sensing coil 17 causes two changes to be reflected in the electrical properties of the sensing coil 17. A movement of the armature 15 away from the sensing coil 17 causes both the coil inductance to be decreased and the magnetically-induced losses in the coil to be decreased. Both of these properties are utilized in the present invention in order that the amount or value of the signal observed from the sensing coil may be enhanced. Without the use of these two changing components of properties of the sensing coil 17, it would be difficult to obtain a usable signal from a sensing coil with the small movement incorporated into a high-speed punch mechanism; some prior-art techniques for movement verification have proven unsatisfactory in a punch environment primarily because of this small signal available from the sensing coil. It is especially notable that a system which is not cognizant of both the inductance change 50 and the loss change in the sensing coil may inadvertently permit these two effects to oppose one another and produce an output which is smaller than either component alone. In a system made according to the present invention, the two signal components are caused to be additive. To maximize the signal available from the sensing coil 17, it is desirable, in addition to combining the two components of coil change in an additive manner, to tailor the properties of the sensing coil 17 and the armature 15. In order that the electrical loss component of the signal in the sensing coil 17 may be as large as possible, it is desirable for the armature 15 to be a structure which is lossy or inefficient at the frequency selected for exciting the sensing coil 17. Both the selection of the armature member 15 material and the physical construction of the armature member 15 may contribute to this high loss design. In order that the armature 15 may be lossy, it should display large energy absorption when excited

magnetically at the operating frequency; both eddy current losses and hysteresis losses are potential contributors to this condition. Large hysteresis and eddy current losses are intentionally avoided in most magnetic designs by making the magnetic member from an alloy 75 such as Hypersil or Permalloy, and by other techniques,

5 ' such as making the magnetic member laminated rather than solid in form. The design to be utilized in fabricating the present armature 15 contrasts with these low loss techniques for magnetic member construction. In the present design, it is specifically desired that large energy absorption occur in the armature 15, so that a change in sensing coil 17 losses may be easily detected as the armature 15 moves a,"ay from the sensing coil 17. In practice, it has been found that an armature design which emphasizes eddy current losses through the use of material having hi,-h magnetic transmission efficiency embodied in a relatively large solid member affords an easily measurable loss component. It is believed that in this desi.-n the magnetically efficient material provides tight magnetic coupling with the sensing coil, while the relatively large and solid, non- laminated configuration provides for high eddy current losses. Cast 21/2% silicon iron has been found a suitable material for constructing the high loss armature member 15. The cast 21/2 % silicon iron has also been found to have properties similar to Number 5 relay steel. It has also been found that armature members coniposed of metallic but non-magnetic materials afford signal output from the verification system. Movement of an armature composed of these materials into the close and remote positions adjacent to the sensing coil 17 will change the losses induced into the sensing coil 17 and will also change the inductance of the sensing coil, since the metallic member acts as a shorted turn magnetically coupled to the sensing coil. In contrast to the embodiment which couples a meniber having permeability higher than air to the sensing coil and thereby increases its inductance, the coupling of a mettalic member acting as a shorted turn to the sensing coil will decrease sensing coil inductance, but will have a smaller effect on the coil's inductance than does the preferred silicon steel armature member at 15. It is also possible to design an armature member to provide lar,-e hystereis losses in lieu of or in conjunction with the eddy current losses of the above-described embodiment. To achieve large hysteresis losses in the armature, both the excitation frequency and the armature material must be selected to emphasize such losses. A system which incorporates use of both inductance change and energy loss change into a practical movementsensin- system is depicted in FIG. 2 of the drawings. In FIG. 2, the sensing coil 17 is shown connected to both an excitation source 16 (a source of undulating energy designated as a generator, G) and a detector means 21. In FIG. 2, the detector means is composed of a selected value capacitor 20 and an envelope detector 35- the envelope detector is labeled ED and numbered Y5. A lead 25 is shown in FIG. 2 for conveying signal from the selected value capacitor 20 to the envelope detector 35a lead 42 is shown for conveying signal between the se@s'ing coil 17 and the selected value capacitor 20. It will be noted that distinction is made in the description between the term "detector means" and the term "envelope detector means." The former incorporates the latter plus additional components such as the selected value capacitor 20; the number "21" is used to designate the "detector means," while "35" designates the "envelope detector means." The sensing system shown in FIG. 2 employs a detector means using electrical resonance as a technique for recognizing changes in inductance and electrical losses in the sensing coil 17. Although resonance is employed to detect sensing coil 17 property changes in this embo,diment of this invention, a person skilled in the art will recognize that other techniques may be employed for this sensing. (One such other technique is shown in FIG. 6 of the drawings and is described later.) The present detector means employs the resonant method of sensing and also derives, from the properties of the reso- 8;512)704 6 natable circuit, secondary advantages which enhance the- usefulness of the sensing system. In the present detector means, the resonant circuit consists of the sensing coil 17 and the selected value capacitor 20. In the configuration commonly employed for a highspeed punching mechanism, it is normal practice to separate the mechanical and electronic components of the system. Following this procedure, it would be common practice to locate the sensing coil 17 in FIG. 2 close to 10 the mechanical component of the punch, while the capacitor 20 and the detector means 21 would be located remotely in the electronic area; traversing the distance between the mechanical and electronic areas may be several inches or several feet of

wire. In many sensing systems, 15 elaborate precautions are necessary to prevent external signals from being induced into this connecting wire. Especially is this true in an electromechanical device, such as a paper tape punch, where there are often large transient signals resulting from the switching on and off 20 of current in an inductive load. The noise conditions typically encountered in an operating environment are represented diagrammatically in FIG. 2 with the components 22, 23, and 24. In this representation, the component 22, labeled NG, re-presents a 25 noise generator source, the component 23 represents leads from which noise signal may be coupled into adjacent detector circuit wiring, and the capacitors 24 represent stray capacitance between wires through which noise signals may be coupled into the detector means 21. 30 Capacitance coupling of noise signals into a detector circuit is most commonly observed where the detector circuit operates with a high input impedance. Under this condition, the stray capacitance and the detector's input impedance form a voltage divider network, a divider network which is inherently tailored to cause noise voltage to divide, so that the largest component appears across the detector branch with its high impedance value. Because the input element of the voltage divider network is capacitive in nature (the capacitors 24 in FIG. 2), high 40 frequency components of the noise signal will be the component most efficiently coupled into the detector circuit. One of the major advantages of the present detector means arises inherently from the connection of the detector circuit 21 across the capacitor 20 in FIG. 2. With 45 the detector circuit 21 shunted by the relatively large capacitor 20, the voltage divider by which noise may be coupled into the detector circuit 21 comprises a small stray capacitance 24 in series and a large capacitance at 20 in shunt with the noise signal. The relative values of these 50 two capacitors assure that voltage coupled into the detector circuit 21 by the noise generator 22 is quite small. Another way of viewing this condition is to realize that the coupling wires 25 and 42 are operated at a low impedance; an impedance not susceptible to capacity-induced 55 noise. (It is known and can be mathematically demonstrated that the impedance across a high Q series resonant circuit approaches zero ohms at maximum resonance.) Another means by which noise signals are coupled into detector circuit, such as 21, is that of electromagnetic 60 radiation. According to the laws of electromagnetic radiation, the signal coupled into a receiving conductor is proportional to the current flowing in the radiating member. In FIG. 2, this amounts to saying that the signal coupled into the detector connecting wiring is proportional to current 65 flowing in the radiating wire 23; the signal coupled into the receiving wire will also be a current signal. In order that satisfactory detector circuit operation may be realized, it is necessary that this current-induced signal be impressed across some impedance which will assure that 70 the voltage generated by it is small in relation to the desired information signal. It is apparent that if this current-induced signal were impressed across a large impedance, a large voltage signal would result. Because the capacitor 20 in FIG. 2 offers a low impedance to signals 75 induced by electromagnetic radiation, the sensing system

7 shown in FIG. 2 is also relatively immune from radiated noise signals, just as it has been shown to be immune from capacity-coupled noise signals. Several factors influence the choice of the excitation source 16 to be employed. In order that meaningful signals may be obtained from the small changes in the resonant circuit of FIG. 2, it is necessary that the oscillating frequency of the source be stable. It is also obvious that, if several sensing coils are to be employed in one mechanical system, it is desirable for the excitation source to be capable of driving a plurality of sensing coils in lieu of requiring a separate source for each sensing coil. Upon first consideration, a designer of a sensing system such as that shown in FIG. 2 would normally consider a sinusoidal oscillator or some other generator of alternating current energy for the source 16. Upon further reflection and in view of a large number of sensing circuits to be driven, the designer would realize that a sinusoidal source could only be employed at a great loss of power supply energy, since a linear but inefficient amplifier would be required. This energy loss would be especially large if a Class A amplifier were used as the output stage of the excitation source 16. The present excitation source overcomes the disadvantages of conventional energy sources for a resonant circuit by employing a switching member as a modulator. A switching member, because of its nature of being either open or closed and spending little time in the half-open, half-closed high dissipation

state, is efficient from an energy viewpoint. Since a resonant circuit acts as a wave filter, the application of square wave or switch generated energy pulses to the present sensing circuit does not affect the resonant circuit output waveform. The signal voltage observed across the capacitor 20 in FIG. 2 is approximately sinusoidal in nature, even though a sine wave energy source is not employed in the present embodiment. The operating frequency of the excitation source 16 in FIG. 2 is selected in the present embodiment to give an energy pulse having a time duration approximating the duration of a half sinusoid for the resonant coil 17 and the capacitor 20. In selecting the resonant frequency for the coil 17 and the capacitor 20, several factors must be considered; if a low frequency for the coil 17 and the capacitor 20 is employed, large values of capacitance and inductances are required, and the resonant efficiency or Q is low in comparison to that possible with higher frequency circuits; a low Q resonant circuit by definition affords little amplitude-discrimination between two closely adjacent excitation frequencies. Related to the present sensing system, use of a low Q resonant circuit would afford difficulty in discerning the difference between extended and nonextended positions of the punch armature member. Another consideration in selecting the resonant frequency for the coil and the capacitor in the sensing system concerns the energy losses to be expected in the armature 15 when it is excited by the sensing coil 17; energy losses in a magnetically excited member bear a positive correlation with frequency; that is, the losses increase with increasing excitation frequency. From this consideration, then, it is desirable that the resonant circuit be operated at a higher frequency in order to obtain larger and easily detectable changes in the losses reflected into the sensing coil 17. Extremely high frequencies would, however, make the physical values and sizes of the sensing coil 17 and the capacitor 20 very small and difficult to manufacture to exacting tolerances. Extremely high frequencies would also increase the losses in the excitation source. It is therefore desirable, from a practical viewpoint, to select an intermediate frequency for the resonant frequency of the coil 17 and the capacitor 20. The present embodiment of the invention has been designed to employ a resonant frequency in the neighborhood of 300 kilohertz, an inductance value for the sensing coil 17 in the neighborhood of 162 microhenrys, and a selected value capacitor 20 of 2000 picofarads. With these component values, it has been possible to sense armature motion of 0.020 inch and obtain an increase in capacitor voltage of 11/2 volts when the armature 15 is moved away from the sensing coil 17. It is significant to realize that the high transducer sensitivity realized in the present sensing system—that is, a 11/2-volt resonant circuit change resulting from a mechanical motion of 0.020 inch—is the product of both sensing inductance change in the L-C circuit composed of the sensing coil 17 and the capacitor 20 and sensing the energy loss change in the sensing coil 17. FIG. 3 in the drawings illustrates the significance of combining the effect of losses with the effect of inductance change in a verification system. In FIG. 3, the two bell-shaped curves represent amplitude of the voltage appearing across the selected value capacitor, 20 in FIG. 2, following rectification and filtering in the detector circuit. The curve 28 in FIG. 3 represents the response of the circuit when the movable armature 15 is located closest to the sensing coil 17; a separation of 0.015 inch between the armature 15 and the sensing coil's end is typical of this condition. The curve 28 may have a relative amplitude peak of 10 at an exciting frequency of 280 kilohertz. The curve 27 in FIG. 3 represents the response of the circuit when the movable armature 15 is located remote from the sensing coil 17; a separation of 0.035 inch between the armature 15 and the end of the sensing coil 17 is typical of this condition. The curve 27 may have a relative amplitude peak of 11.3 at an exciting frequency near 283 kilohertz. In utilizing the two curves of FIG. 3 for a verification system, it is feasible to select an operating frequency for the excitation source at any point along the horizontal axis within the extremities of the two curves. By careful examination of the curves 27 and 28, however, it is possible to select an operating frequency which yields a maximum relative amplitude difference between the remote and close positions of the armature 15 (a maximum vertical distance between the two curves). By experience, it is found that an operating frequency along the right-most skirts of the two curves is desirable from this maximum voltage difference viewpoint; the operating frequency of 45288 kilohertz shown in FIG. 3 represents a desirable point along the right-most skirts for the two curves shown in FIG. 3. As a practical matter in designing a verification system according to this invention, it may be desirable to select a 50 whole number

frequency, such as 300 kilohertz, for the excitation source 16, then select an inductance value for the sensing coil 17 to yield resonance in approximately the 300 kilohertz region, and then perform the exact positioning of the curves 27 and 28 with respect to the operating 55 frequency by selection of the value of the capacitor 20. The exact procedure to be employed is a matter of design choice. The significance of combining the effects of inductance change and coil loss change in an additive manner in the 60 verification system is apparent from examining the curves in FIG. 3. Without the coil loss change component, the curves 27 and 28 would have equal peak amplitudes, and the difference signal obtainable from the remote and close positions of the armature member would be much smaller than now possible (with the loss component). The dotted curve 29 in FIG. 3 represents this condition. The dotted curve 29 is obtained by raising the curve 28 until it has an amplitude peak equal to that of the curve 27. In this condition, the skirt of the dotted curve 29 and the curve 27 can be seen to be very close in vertical position. Only by increasing the horizontal distance between the peak of the dotted curve 29 and the peak of the curve 27 in FIG. 3 or by increasing the slopes of the curves could the distance between the skirt of the dotted curve 29 and the skirt of the curve 27 be increased. Since the first of

9 these options implies that a larger change in coil inductance or greater armature movement would be required, and the second implies that a more efficient resonant circuit is required, neither option is desirable from a practical viewpoint. Use of the coil loss component in the sensing system of this invention precludes the need for either of these undesirable options. Earlier in this specification, the use of a non-magnetic armature at 15 was mentioned; it was noted at that time that such a non-magnetic armature is capable of producing both a change in sensing coil inductance and a change in sensing coil energy losses, just like the magnetic armature, although with some lesser amount of signal being developed. In view of the preceding discussion of FIG. 3, the properties of the sensing coil when coupled to a nonmagnetic armature are disclosed here. When a non-magnetic armature 15 is coupled with the sensing coil, movement of the armature into a position closer to the sensing coil produces an increase in sensing coil energy losses, since energy is dissipated in the bulk resistance of the armature member. In addition to this change of losses, movement of the armature close to the sensing coil also decreases the sensing coil inductance, since the armature appears as a shorted turn to the sensing coil. As with the previous embodiment, it is desirable that this change of inductance be sensed in a manner which is harmonious with sensing the change in losses induced into the sensing coil. In the non-magnetic armature embodiment, it is desirable for the decrease in inductance and the increase in losses to produce cooperative effects in the detector circuitry; this may be accomplished in the resonant circuit detector by realizing that the low inductance, high loss conditions occur simultaneously, so that the low amplitude curve will lie on the high frequency side of the high amplitude curve in lieu of their reversed relation, as shown in FIG. 3. Because of this reversed relation between the low and high amplitude response curves with a non-magnetic armature, the modulating frequency of the excitation source is most advantageously placed along the left-hand skirts of the curves when a non-magnetic armature is employed, in lieu of the right-hand skirt placement indicated for FIG. 3. Cooperation between the change in sensing coil inductance and the change in sensing coil losses may also be maintained when the later-to-be-described alternating current bridge circuit is employed in the detector means; with the bridge circuit detector embodiment, the increase in losses and the decrease in inductance as the non-magnetic armature moves toward the sensing coil must both drive the bridge circuit away from balanced or null condition. FIG. 4 of the drawings represents one actual circuitry embodiment which may be used in realizing the three elements of the sensing system shown in FIGS. 5 and 2. In FIG. 4, there are shown an excitation source 16 and a lead 41 connecting the excitation source 16 to the sensing coil 17, a lead 42 connecting the sensing coil 17 to the detector means and the selected value capacitor 20, and a lead 25, corresponding to the lead 25 in FIG. 2, connecting the selected value capacitor 20 to the envelope detector circuit. In FIG. 4, the envelope detector which is identified by the numeral 35 in FIG. 2 comprises all of the detector means components with the exception of the selected value capacitor 20. In keeping with the spirit of the present invention, the leads 41, 42, and 25 in FIG. 4 are shown as non-shielded wires. The need for shielding or other

noise protection for these wires is eliminated by the noise rejection ability inherent in the sensin.- system. In FIG. 4, the components inside the box identified as 16 represent one embodiment of an excitation source usable with the resonant circuit version of the movement verification system. The circuitry inside the box 16 in FIG. 4 consists of a piezo electric crystal controlled oscillator 34, driving a pair of parallel-connected transistor switching stages 36. In this circuit, the piezo electric crystal controls the rate at which the switching transistors open and close. The exact circuitry employed in fabricating the crystal-controlled oscillator 34 may be taken from the prior art concerned with solid state crystal-controlled oscillators; an example of such circuitry is given in the transistor manual published by General Electric Company, seventh edition, page 21.10 In operating the excitation source 16 in FIG. 4, energy from the +12-volt supply is applied to the circuit at the terminal 57. The resistor 37 functions as a current source and limits the current flowing from the terminal 57 into the sensin.- coil via the terminal 39 and the lead 41. The 15 switching transistors 36 serve to modulate the current flowing from the terminal 57. These transistors interrupt the excitin- current flowing into the sensing coil when they are in the "off" state. FIG. 4 shows a single sensing system connected to the 20 excitation source output terminal 39, even though in a practical system it is desirable for the excitation source 16 to be capable of driving several such sensing systems. Connection of the excitation source to these additional sensing systems is indicated by the lead 40. To prevent 25 signals from one sensing system which is connected to the terminal 39 from interfering with or becoming part of the signals found in another sensing system, the capacitor 38 within the excitation source is utilized. The capacitor 38 restricts the voltage excursions observable 30 at the excitation source terminal during the interval when the switching transistors are in their "off" state. A person skilled in the electronic art will realize that the capacitor 38 may be omitted if the excitation source's output stage is designed around a complementary switching 35 circuit which alternately connects the output terminal to a power source and to ground. Either the capacitor 38 or such a conducting switch may be used to return the terminal 39 to signal ground and prevent intercoupling 40 of signals. In FIG. 4, the sensing coil 17 and the selected value capacitor 20 are shown connected into a circuit which has the capability of being tuned to resonance. The lead 25, which may be relatively long, is used to connect the envelope detector to the selected value capacitor 20. 45 The envelope detector circuit in FIG. 4 comprises one embodiment of a circuit capable of demodulating the A.C. voltage appearing across the selected value capacitor 20 and then comparing this voltage with a standard or predetermined value and indicating when the capacitor voltage exceeds the predetermined value. The essential properties of the detector means 21 are that it present a relatively high impedance load to the resonatable circuit comprising the sensing coil 17 and the capacitor 20, and that it have a stable comparison means and that, in addition, 55 it should be capable of supplying an output signal compatible with the electronics used in the remainder of the machine system. In the illustrated detector circuit embodiment, the diode 44 and the capacitor 45 are used to rectify and store 60 the peak positive value of the voltage appearing across the selected value capacitor 20. During the first few cycles of oscillation at a given amplitude, the diode 44 causes energy from the selected value capacitor 20, to be coupled into the capacitor 45; once the voltage across the capacitor 65 45 attains the peak value of voltage appearing across the capacitor 20, conduction in the diode 44 ceases. The action of the diode 44 and the capacitor 45 may be considered as an envelope detector operating in a fashion similar to the detector in an amplitude-modulated radio 70 receiver. The resistor 46 in the detector circuit provides a path for discharging the capacitor 45. This discharge is necessary in order that the envelope detector output be capable of following or complying with decreases in the voltage appearing across the selected value capacitor 75 20.

At 50 in the detector means block 21, an emitter follower circuit is shown. This circuit is used to couple the detected sensor voltage to an external load. The detector output at the terminal 51 may be utilized when the present sensing system is to be employed as an analog transducer of mechanical motion into an electrical signal, an analog transducer system being one which gives a continuous function representation of the moving member rather than a step function or binary representation. An analog transducer system is useful in engineering studies of high-

speed mechanical motions such as those taking place in a paper tape pinch. An analog transducer system may also be utilized for maintenance purposes for quantitative examining of machine motion. Velocity and acceleration information for the moving member may also be obtained from the signal at the terminal 51 by means of electronic processing of the analog position signal or by mathematical calculations performed on the analog data. At 43 in the detector means 21, a capacitor is used to couple the detected signal into an amplifier circuit 47. This amplifier provides an increase in detected signal voltage level as well as isolates the detector circuit from loading by later circuitry. The output of the amplifier circuit 47 is coupled through a capacitor 48 into a voltage comparison network. In the voltage comparison network, the transistors 59 and 55 are held in the conducting state by current flowing from the terminal 57 of the +12-volt source through the resistance 60. When a signal of sufficient negative amplitude is coupled through the capacitor 48, the transistor 55 is switched to the "off" state, whereupon the resistor 58 raises the output terminal 56 toward +4 volts and couples a signal into the logic circuitry controlling the verified moving member (15 in FIG. 1). Signals which are not of sufficient amplitude to switch the transistor 55 to the "off" state are ignored by the detector means. The base-to-emitter voltage drop in the transistors 55 and 59, the diode array 49, the diode 53, and the resistor 54 are effective to determine the switching point or threshold point of the circuit. The capacitor 52 in the detector means is used to provide an output signal duration time sufficient to activate other circuitry in the control logic. FIG. 6 in the drawings shows another embodiment of the detector means 21. In this embodiment, the sensing coil is one arm of an alternating current bridge circuit rather than a part of a resonant circuit, as was true in the previous detector means embodiment. FIG. 6 shows the verification system to consist of the three essential elements already described with relation to FIG. 5; namely, an excitation source, a sensing coil, and a detector means. The FIG. 6 embodiment of the invention also utilizes the same two components of sensing coil property change as the FIG. 4 embodiment; the properties of coil loss change and coil inductance change resulting from a metallic member's moving between close and remote positions in the sensing coil's magnetic field. The excitation source 16 in FIG. 6 may be embodied by a transistor oscillator such as the crystal oscillator suggested for FIG. 4. An amplifier having a transformer coupled output stage may be employed to isolate the oscillator from the load variations imposed by the bridge circuit. One amplifier which may be modified to perform this service is shown on page 356 of the publication "Transistor Manual, Series SC-1 I," of Radio Corporation of America; this amplifier, when modified to pass frequencies in the low radio frequency range, provides an A.C. source suitable for driving the bridge circuit. The detector means shown in FIG. 6 employs one of the commonly used alternating current bridge circuits. In this circuit, resistive elements 60 and 61 form two of the bridge arms, while the sensing coil 17 and the capacitor-resistor combinations 62 and 63 form the other two arms. A person skilled in the electronic art will recognize that this is but one of many alternating current bridge circuits 35512704 12 which may be employed to sense variations in both the inductance and the loss properties of a coil. Regardless of the bridge circuitry employed, alternating current bridges are possessed of the feature that two separate conditions must be met for achieving a bridge null or balance condition; both the reactive and the resistive components of the unknown element must be balanced. This requirement leads to the commonly accepted statement that an alternating current bridge circuit has two null points—one resistive and one reactive. In the application of a bridge circuit to the verification system, the reactive measuring capability or the reactance null of the alternating current bridge is used to sense inductance variations in the sensing coil, while the resistance-measuring capability, or the resistance null, senses the variations in sensing coil losses. In the circuitry of FIG. 6, the adjustable capacitance 62 permits accomplishment of bridge balance for reactance, while the adjustable resistance 63 provides for bridge balance for resistance. A discussion of the alternating current bridge and its double null properties is given in General Radio Company's Catalog "T," February, 1968, at page 66. This discussion is helpful in applying bridge techniques to the present verification system. In adapting a bridge circuit to perform the requirements of the detector means in the present invention, it is important that cooperative addition be maintained between the effects of sensing coil loss change and sensing coil inductance change. As was true in the resonant circuit detector embodiment of FIG. 4, these two properties are

separate and distinct and may have their effects combined either in a helpful and aiding manner or in a conflicting and opposing manner. In applying this concept, where the detector means utilizes a bridge circuit, it is necessary to provide that the inductance change and the loss change produced by a unidirectional movement of the sensed mechanical member (15 in FIG. 1) produce the same effect on the bridge circuit; that is, both changes drive the bridge toward a null condition or away from a null condition. In practice, this condition may be realized by adjusting the bridge for both a reactance and a resistance null while the sensed movable member is in a maximum displaced position; in this condition, movement of the sensed member toward the minimum displaced position will produce both the reactance null and the resistance null. Causing the bridge circuit to be nulled while the mechanical member is in maximum displaced position also has the effect of producing decreasing signal output from the null amplifier 64 in FIG. 6 as the sensed mechanical member (15 in FIG. 1) moves toward the maximum displaced position. The transistor 66 in FIG. 6 is biased to undergo a change of state when impressed with a low value of null amplifier output. In this fashion, the output of the detector means at 56 is a digital signal which changes state when the maximum displaced condition is approached by the moving mechanical member. The amplifier 65 in FIG. 6 provides means for coupling an analog signal representing displacement of the moving member to an external load. Both the amplifier 65 and the amplifier 64 are of the differential input high input impedance type which avoid heavy loading on the bridge circuit and the resulting disturbance of balance conditions therein. An amplifier similar to the integrated circuit amplifier SN526 manufactured by Texas Instruments, Incorporated, provides characteristics suitable for use at either the position 64 or 65 in FIG. 6. As indicated previously, other bridge circuits, in addition to the one of FIG. 6, may be employed in the detector means of the verification system. In contrast to the 70 capacitance-inductance bridge of FIG. 6, a bridge which employs an inductive element in an arm adjacent to the sensing coil 17 exhibits smaller sensitivity to frequency change in the excitation source, since both the standard and the unknown reactances vary in direct proportion to the excitation frequency, while, with the bridge shown in

FIG. 6, one reactance varies directly with frequency, and the other varies inversely with frequency. The frequency sensitivity of the bridge circuit of FIG. 6 also precludes use of a switching mode square wave excitation source (at 16 in FIG. 6), as was possible with the resonant circuit embodiment of the detector means shown in FIG. 4. The high harmonic content of the waveform derived from a switching circuit prevents a single null point from being reached for the reactive elements of the bridge of FIG. 6, since each sinusoidal component of the square wave requires a different value of inductance and capacitance to achieve bridge balance. For the bridge circuit shown as the embodiment of the detector means in FIG. 6, an excitation source providing a nearly pure sinusoidal waveform is required. The oscillator and amplifier combination described earlier is capable of furnishing this waveform. In both the resonant circuit and bridge circuit embodiments of a detector means 21, it is possible to relate the reactance value of the detector means reactive component (the selected value component) to the reactance value of the sensing coil. In the resonant circuit detector means, the selected value component operating with the sensing coil is the capacitor which tunes the sensing coil to resonance; in this detector means embodiment, the reactances of the sensing coil and the selected value capacitor are related one to one; that is, they are equal. In the alternating current bridge circuit embodiment of the detector means, one-to-one correspondence between sensing coil and detector means reactances may also be applicable; that is, the inductive reactance of the sensing coil may equal the selected value component reactance in the bridge circuit. In the bridge circuit detector means, the corresponding reactance may be either inductive or capacitive in nature, depending upon the bridge configuration employed. In the bridge circuit detector means, it is also possible to have the sensing coil reactance and the bridge's capacitive or inductive reactance related in magnitude by some factor other than one; for example, the bridge's reactance may be twice that of the sensing coil, and yet achieve bridge nulling. This latter condition is acceptable to the bridge if the resistance ratio arms of the bridge are correspondingly related. Regardless of the ratio between sensing coil reactance and detector circuit reactance and the form of detector circuit used, it is clear that the two reactances must bear some precise relation in

amplitude; that is, they must complement each other or cancel the effects of each other in the circuitry employed. A better comprehension of the present invention may be had from comparing its characteristics with those of some prior-art verification systems. The most significant of these comparisons are outlined in the following paragraphs. Some prior-art verification systems do not distinguish between the moving member's departing from home position and its attaining fully extended position. In a highspeed punch mechanism, for instance, these prior-art systems issue a verifying signal if the punching pin departs from its static position, regardless of whether or not the pin attains fully extended status, wherein it pierces the media tape. It is understandable that the absence of fully extended position verification can lead to undesirable consequences, since the movable member may successfully depart from its static position but be prevented from reaching fully extended position by friction or binding in the mechanism. This possibility is especially prevalent with impact-driven equipment. The present verification system easily overcomes the difficulty of sensing only departed-from-home condition; the present system may be adjusted in the detector circuitry to register an output signal only when the mechanical member has reached its fully extended position. The discussed embodiments of the present system are capable of detecting the last five percent of pin travel 30512,704 14 and presenting output signal only when the moving machine member has reached this last five percent of travel. Another notable feature of the present verification system is its freedom from the use of magnetized members in either the sensing coil or the movable machine member; this absence of magnetized members imparts a freedom from large physical sizes and sensitivity to vibration which are commonly associated with permanent magnets. In addition to the absence of large permanent magnets, the 10 sensing coil of the present invention may also be small, so that it fits into a restricted physical space not needed for the mechanism itself. It is also true that either or both of the sensing coil and the lossy, magnetic member which couples with it may be made movable in the present system, so long as electrical connections may be made to the sensing coil. The present sensing system, because of its ability to present an analog output signal, may be used in engineering studies of a high-speed moving member. In this application, data representing instantaneous position can be obtained from the output terminal of the sensing system, and this data may be operated upon manually or electronically to obtain velocity and acceleration information. In contrast to many prior-art sensing systems, the present invention does not require the use of square loop or ferrite magnetic members. Both the mechanical fragility and the temperature sensitivity of these ferrite members would be a detraction from the properties of the present sensing system. The absence of square loop magnetic material from the present system is also important in providing an analog output signal, since square loop or nonlinear transducer properties would preclude an output having infinite resolution of the mechanical moving member. 35 The ability of one embodiment of the present verification system to accept excitation from a square wave energy source enables a saving in energy as well as a reduction in component sizes within the excitation source. The high efficiency switching mode excitation source eliminates the necessity for large power transistors and heat sinking capability. The transistors 36 in the excitation means of FIG. 4 may be of the small TO-5 size package; such transistors as the 2N2270 may be readily used in this service. 45 inherent freedom of one embodiment of the present verification system from radiated or coupled electrical noise is a significant advantage in packaging the system. With the present system, it is unnecessary to restrict the detector to the immediate vicinity of the moving mechanical member. It is also unnecessary to use shielded wire or to employ undue physical separation between high energy and low energy leads in order that noise signals may be excluded from the verification system. The ability of the present system to provide indication 55 of static position between the two machine members is also an improvement over the prior art. Verification systems which employ a permanent magnet or are dependent on mechanical motion to produce a changing magnetic field cannot convey information about stationary relations between the parts. The present system is useful over a velocity range down to zero relative motion. The present verification system may be applied to a variety of machines having moving parts; it is also possible to apply the invention to other computer peripheral 65 devices in addition to paper tape punches, such as highspeed printers, card punches, and sorting devices. Typical values for those areas of the present verification system shown in FIG. 4 which are critical to the operation of the

systems are listed below. The resistor 37 TO is 40 ohms at 3 watts, the capacitor 38 is 0.082 microfarad, the coil 17 is approximately 162 microhenrys and wound with AWG #44 wire, the capacitor 20 is 2000 picofarads, the capacitor 45 is 0.01 microfarad, the resistor 46 is 100 kilo ohms, the capacitor 43 is 4.7 microfarads, the 75 capacitor 48 is 39 microfarads, the capacitor 52 is 0.01

3) 512,704 15 microfarad, and spacing between the sensing coil and the armature is 0.015 to 0.020 inch in the close position and 0.035 to 0.040 inch in the remote position. Typical values for critical components of the verification system embodiment shown in FIG. 6 are as follows: the sensing coil 17, approximately 162 microhenrys; the resistor 60, 300 ohms; the resistor 61, 300 ohms; and the capacitor 62, 1700 picofarads. The value of the resistor 63 depends on the inherent and induced resistive components in the sensing coil 17. Some changes may be made in the construction and arrangement of the verification system of this invention without departing from the spirit and the purpose thereof; the descriptions which have been given are by way of example only, and the following claims are intended to cover modified forms or equivalents which reasonably fall within this scope. What is claimed is: 1. Apparatus for sensing relative movement between a first member and a second member of a machine, said apparatus comprising: a sensing coil mounted upon said first machine member adjacent to said second machine member, said sensing coil and said second machine member being magnetically coupled in a manner which is both close and variable in response to relative movement between said first and second machine members, said second machine member being either electrically conductive or of differing magnetic permeability with respect to air, so as to change the inductance of said sensing coil when located adjacent thereto, said second machine member also being dissipative of energy induced therein by modulated magnetic excitation, thereby endowing said sensing coil with alternating current resistance which is variable according to the degree of coupling between said sensing coil and said second machine member; a modulated source of energy coupled with said sensing coil, said energy source having an output waveform composed of one or more component waveforms, at least one of which is an alternating current waveform, said energy source being effective to make detectable in said sensing coil said variation in alternating current resistance and said variation in inductance; and detector means coupled with said sensing coil and said energy source, said detector means including means for detecting said variations in sensing coil alternating current resistance and inductance, said detector means also including means for generating a signal representative of instantaneous composite value of said alternating current resistance and inductance, said signal representative of instantaneous alternating current resistance and inductance being also representative of instantaneous position between said first and second machine members. 2. Apparatus for sensing relative movement as in claim 1 above wherein said detector means also includes means for coupling said signal representative of instantaneous values to external utilization means. 3. Apparatus for sensing relative movement as in claim 1 above wherein said detector means also includes means for determining that a predetermined value of said signal representative of instantaneous position has been attained, and issuing an indication thereof to external utilization means. 4. Apparatus for sensing relative movement as in claim 1 above wherein said apparatus includes both means for coupling said signal representative of instantaneous values to external utilization means, and means for determining that a predetermined value of said signal representative of instantaneous position has been attained and issuing an indication thereof to external utilization means. 5. Apparatus as in claim 1 above wherein said means for detecting variations in sensing coil alternating current resistance and inductance includes circuit means utilizing a selected value reactive component, said selected value reactive component having an electrical value which, upon excitation at a selected operating frequency and during an extreme displacement of said first and second machine members, precisely complements in said detector circuit the reactance value obtained from exciting the inductance of said sensing coil at said frequency. 6. Apparatus as in claim 5 above wherein said circuit means utilizing a selected value reactive component is a bridge circuit, said bridge circuit, in addition to containing said reactive component, also containing a resistive component, said reactive and resistive components being usable respectively in obtaining a reactive null point and a resistive null point in said bridge circuit. 7. Apparatus as in claim 5 above wherein said circuitry utilizing a selected value

reactive component is a resonatable tuned circuit, said resonatable tuned circuit comprising said sensing coil and a selected value reactive component which 25 is a capacitor means, with the reactance value obtained from exciting said sensing coil's inductance and the reactance value obtained from exciting said selected value capacitor means being of equal magnitude during maximum 30 displacement of said first and second machine members and during excitation at a selected frequency. S.

Apparatus for sensing relative movement between a first member and a second member of a machine, said apparatus comprising, 35 a sensing coil movable in conjunction with said first machine member; a metallic portion movable in conjunction with said second machine member; said sensing coil and said metallic portion being magnetically coupled in a manner which is both close and variable in response to relative motion between said first and second machine members; said sensing coil being tunable by a selected value capacitance means to form a resonant circuit, with 45 said resonance being adjusted to a maximum degree during an extreme position of said first and second machine members, said resonant circuit being detunable away from said maximum resonance upon relative movement of 50 said first and second machine members away from said extreme position and by reason of a magnetically-induced change in two or more electrical properties of said sensing coil; a detector means incorporating said selected value capacitor, said detector means comprising means for sensing the degree of resonance occurring in said resonatable circuit, means for coupling to utilization means a signal representing the degree of resonance occurring in said resonatable circuit 7 and means for issuing an indication that a predetermined value of resonance is occurring in said resonatable circuit, 15 said means for sensing the degree of resonance being coupled by leads to said sensing coil and said selected value capacitor, said coupling being accomplished at a point in said sensing coil-selected value capacitor circuit which provides electrical impedance relatively immune to noise signals coupled into said leads; and modulated, frequency stable excitation means capable of exciting said sensing means' 9.

Apparatus for sensing relative movement as set forth in claim 8 wherein said point which provides electrical

impedance relatively immune to noise signals is a point directly shunted by said selected value capacitor so that said coupling leads are shunted by a capacitance having low impedance with respect to transient noise signals, and said sensor and detector are relatively immune to said noise coupled into said leads by means of capacitance between an electrical noise source and said leads. 10. Apparatus for sensing relative movement as set forth in claim 8 wherein said point which provides electrical impedance relatively immune to noise signals is a high signal level point in said circuit, so that said sensor and detector means are relatively immune to magnetically radiated noise coupled into said leads. 11. A movement-sensing system which is one of a plurality of such systems for transducing reciprocal motion between first members and second members of a machine into an electrical signal, said sensing system comprising in combination: sensing coil member mounted on each of said first machine members; magnetic member mounted on or constituting part of each of said second machine members, said magnetic member being closely magnetically coupled with said sensing coil and being composed of material displaying large-energy losses in the kilohertz range of magnetic excitation; capacitor member of selected value, said capacitor being electrically connected with said sensing coil member and having an electrical value which will tune said sensing coil to maximum resonance at a first frequency when said first and second machine members are maximally displaced; said sensing coil and selected value capacitor being tunable to resonance at a second frequency when said first machine member and said second machine member become minimally displaced; said resonance at said first frequency and said resonance at said second frequency being of different amplitude by reason of differing magnetic energy losses from said sensing coil when said machine members are maximally and minimally displaced; said sensing coil and selected value capacitor being tunable to resonance at a second frequency when said first machine member and said second machine member become minimally displaced; said resonance at said first frequency and said resonance at said second frequency being of different amplitude by reason of differing magnetic energy losses from said sensing coil when said machine members are maximally and minimally displaced; detector means incorporating said selected value capacitor member, said detector means comprising means for developing an output signal upon sensing across said capacitor a signal of

predetermined amplitude; said detector means also comprising means for envelope detecting, filtering, and coupling to external utilization means, signal developed across said selected value capacitor; and an excitation source having a modulating switch device operable in the low radio frequency range, said modulating switch operating at a frequency within or slightly outside the interval of frequencies between said first frequency and said second frequency; said modulating switch operating frequency being a frequency causing a large and distinguishable amplitude difference in said signal sensed across said selected value capacitor -upon said first and second machine members changing from minimum to maximum displaced position, whereby 3) 512) 704 1 18 said amplitude difference in signal sensed across said selected value capacitor arises by reason of inductance change and resonant circuit efficiency change upon changing said first and second machine members 5 from minimum to maximum displaced positions, and said movement-sensing system is inherently relatively free from influence by nearby electrical noise sources. '12. A verification system for a media-perforating machine having movable punching members reciprocating between a non-extended position and an extended position, said verification system comprising in combination: a plurality of ferro-magnetic armatures each mounted to be movable in conjunction with one of said punching members, 15 said ferro-magnetic armatures being composed of solid cast silicon steel or an equivalent material; a plurality of ferro-magnetic armatures each mounted to. with respect to said ferro-magnetic armatures, said sensing coils being magnetically coupled with said 20 ferro-magnetic armatures in a manner which is both close and variable in response to motion of said punching members, said sensing coils being of small configuration and having an air core, 25 said sensing coils each having an inductance value which is variable in response to changes in magnetic coupling between said coils and said ferro-magnetic armatures, said inductance value for each sensing coil assuming 30 a large value when said sensing coil and said ferromagnetic armature are minimally displaced and assuming a smaller value when said sensing coil and said magnetic armature are maximally displaced, said sensing coils also each having electrical losses 35 which are variable in response to changes in magnetic coupling between said coils and said ferro-magnetic armatures, with said electrical loss property in each sensing coil assuming a large value when said sensing coil and 40 said magnetic portions are minimally displaced and assuming a smaller value when said sensing coil and said magnetic portion are maximally displaced; plurality of selected value capacitors each connected in series with one of said sensing coils, 45 each of said selected value capacitors having an electrical value which will cause said sensing coil to be tuned to resonance when said sensing coil's magnetic armature is minimally displaced with respect to said sensing coil, 50 said resonance occurring at a frequency called a first frequency, said resonance being the peak amplitude point in a first bell-shaped curve relating voltage amplitude and excitation frequency for said sensing coil-selected value capacitor circuit, said first curve being therefore identified with minimal displacement of said armature, said capacitor value also being a value which will cause said sensing coil to be tuned to maximum resonance 60 when said sensing coil's magnetic armature is maximally displaced with respect to said sensing coil, said maximum resonance occurring at a frequency called a second frequency, said maximum resonance being the peak amplitude point in a second bell-shaped curve relating voltage 65 amplitude and excitation frequency for said sensing coil-selected value capacitor circuit, said second bell-shaped curve being therefore identified with maximal displacement of said armature, 70 said maximum resonance at said second frequency being greater in amplitude than said resonance at said first frequency by reason of a decreased quantity of said electrical losses being induced into said sensing coil when said magnetic armature member is 75 maximally displaced from said sensing coil as com-

pared to when said magnetic armature member is minimally displaced from said sensing coil; an on-off, switch-modulated excitation source, said excitation source being electrically connected to a plurality of said sensing coils so as to excite said coils, said excitation source having its modulating frequency precisely controlled by a piezoelectric crystal at a modulating frequency called a third frequency, said third frequency being a frequency slightly higher than said first and second frequencies, said third frequency being selected as an excitation frequency which will produce a large and approximately maximum amplitude difference between said first bell-shaped curve and said second bell-shaped curve, said third frequency

being a frequency indicative of an operating point along a right-hand or high frequency skirt of said first and second bell-shaped curves; a plurality of detector means, each- incorporating one of said selected value capacitors, said detector means also each including means capable of envelope detecting and filtering said volt@age appearing across said selected value capacitor and converting said signal into a signal representing instantaneous position of said armature members, said detector means also each including means capable of comparing to a predetermined reference said envelope detected filtered and converted signal, said detector means also each comprising means for signalling to a receiving means upon said envelope detected and filtered signal attaining a value equal to said predetermined reference; and a plurality of leads, said leads comprising means for connecting each sensing coil with said excitation source and connecting each sensing coil with said selected value capacitors and connecting each sensing coil-selected value capacitor combination with said envelope detecting and filtering means, said leads being of sufficient length to permit remote physical location of said components with respect to each other, said leads being routable through regions of relatively high electrical noise while maintaining relatively high 32512)704 20 immunity to electrical noise signals generated therein, said leads achieving said noise immunity by reason of the selective filtering action of said tuned sensing coil-selected value capacitor circuit, said leads also achieving said noise immunity by reason of the high capacitance shunting action of said selected value capacitor upon the members of said leads connecting said detectors to said selected value capacitors; whereby 10 said noise-immune, switch-modulator-excited verifica- tion system is capable of generating signals representing full extension or intermediate extension of said punching member. 13. In a movement-sensing system comprising a plurall,5 ity of inductive sensing devices having a common excitable terminal, means for exciting said plurality of sensing devices comprising: a source of direct - current eifergy; an electronic switching means so connected as to inter- 20 rupt energy flow between said direct current energy source and said common excitable terininal; frequency control means. capable of opening and closing said electronic switching means in rapid and precisely timed intervals; and 25 means for preventing intercoupling between said plur- ality of inductive sensing devices via said common excitable terminal during any operating pbase of said electronic switching means. 14. The exciting means as in claim 13 wherein said 30 means for -preventing intercoupling comprises a capacitor means. 15. The exciting means as in claim 13 wherein said means for preventing intercoupling comprises a second electronic switching means. 35

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 Heymann ----- 234-33 3,430,529 3/1969 McMonagle ----- 234-33 WILLIAM S.
 LAWSON, Primary Examiner

UNITED STATES PATENT OFFICE CERTIFICATE OF CORRECTION Patent No. 3,512,704 May 19, 1970 John D. Hays et al. It is certified that error appears in the above identified patent and that said Letters Patent are hereby corrected as shown below: Column 3, line 23, after "cations" insert -- where Column 18, line 17, "ferro-magnetic armatures eacli mounted to" should read -- sensing coils each stationarily mounted Signed and sealed this 29th day of December 1970. (SEAL) Attest: Edward M. Fletcher, Jr.. WILLIAM E. SCHUYLER, JR. Attesting Officer Commissioier of Patents

Full	Title	Citation	Front	Review	Classificati	Date	Reference	Claims	KWC	Draw Des
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DOCUMENT TEXT:

Sept. 13, 1966 W. H. DICKMAN 3,272,002 TESTING TOOLS Filed Dec. 31, 1963 2 Sheets-Sheet 1 -4 FIG. 2 FIG. 1 6-d 6-6 I @-i 7&4 -c2 FIG.3 79 '04 26 14 -32 26 6i 7t 49'1. 24- 4i 14, 72- 161\ FIG. 5 FIG.4 6,0 64- 7e -79 41 -408 INVENTOR . - 79 Xalter IY @04-6 B@Y

Sept. 13, 1966 W. H. DICKMAN 3,272,002 TESTING TOOLS Filed Dec. 31, 1963 2 Sheets-Sheet 2 FIG. 7 FIG. 8 70a 6-2 6-,fa 2i b 6 a -92 a FIG. 6 7 9 46-, ,4 FIG.9 6l J4-0 jig ig-4 162 J72 6 ,4 0 J.9,,4 -i6Y INVENTOR . 0 1,, '-Dic-Irma77 BY A T 7-0)7NE-V

3 , 2 7 2 , 0 0 2 United States Patent Office Patented Sept. 13, 1966 3,272,002 TESTING TOOLS Walter H. Dickman, 6 Darby Drive, Huntington Station, N.Y. 5 Filed Dec. 31, 1963, Ser. No. 334,729 9 Claims. (Cl. 73-88) This invention relates to testing tools and, more particularly, to tools for applying a force to a workpiece to test whether the same or parts thereof, are capable of withstanding specific predetermined forces. In modern technology where stress is placed on quality control, it is important that even the most insignificant part of an overall assembly be capable of performing the functions required of it. To this end, tools must be provided to test such workpieces in an effort to determine whether they can withstand predetermined stresses or forces to which they may later be subjected. Tools of general application for pull testing of wires, rods, tapes, ropes, cords and appurtenant connectors are exemplified by the United States patent to Kniht, 2,782,635. In the past, such tools have been used to test the capacity of a workpiece to withstand the application of forces. During such tests, it was common to utilize a calibrated indicator to be constantly observed by the testing operator. The use of such structures required the operator to exercise extreme care in applying the test forces. Hence, the test had to be performed slowly and gradually while the operator was required to give his full attention to the calibrated indicator to be sure to observe that no more than the desired force was being applied to the workpiece. All too frequently, the human error of the operator crept into the test and, consequently, the care and attention required of him was not fully given. As a result, many test workpieces were ruined by the operator by subjecting the workpiece to too great a test force. It is an object and purpose of this invention to provide a testing tool that eliminates the problems inherent in prior tools of this type, that eliminates the necessity of an operator's constant attention to the tool during the performance of the test, that does not require an operator who has any specific mechanical skill and, in fact, a tool that is capable of being utilized by the unskilled, the sightless or other handicapped persons. Another object of the invention is to provide a testing tool that can be operated to apply only a predetermined testing force to the workpiece and to release the application of forces to the workpiece when the predetermined force is exceeded. In this regard, another object of the invention is to provide a testing tool that is capable of being adjusted to apply different desired predetermined forces to different workpieces to be tested. Accordingly, a feature and still another object of the invention resides in the details of construction by which the operator may preset the tool to the test force to be applied to the workpiece. When the testing force applied to the workpieces attains that for which the tool is preset, the tool automatically releases all forces applied to the workpiece at the same time emitting an audible sound and an indication perceptible to the tactile senses. Such functions serves to inform the operator by sight, sound and feel that the workpiece has passed the applied test force. A further object of the invention is to provide a testing tool capable of subjecting a workpiece to a pure "go" and "no-go" test, and wherein, when the workpiece passes the "go" test, the tool releases all of the applied forces and provides an indication perceptible to auditory and tactile senses. Other and further objects of this invention reside in the structures and arrangements hereinafter more fully described with reference to the accompanying drawings in which: FIG. 1 is a perspective view of a plier-type testing tool constructed according to the teaching of the invention, FIG. 2 is a partial cross section of FIG. 1 taken along lines 2-2 and showing the parts in operative condition,

FIG. 3 is a partial cross section of FIG. 1 taken along lines 3-3, FIG. 4 is a partial cross section of FIG. 2 taken along lines 4-4, FIG. 5 is a view similar to FIG. 4 showing the parts thereof in their inoperative released condition, FIG. 6 is a cross section of FIG. 2 taken along lines 6-6, FIG. 7 is a side view of a modification of the embodiment of FIG. 1, FIG. 8 is a perspective view of another form of a workpiece engaging structure, and FIG. 9 is a perspective view of a modified embodiment illustrating a bench type testing tool. Referring now to the drawings, the testing tool shown in FIGS. 1 to 6 inclusive is of the plier-type and is generally identified by the numeral 10. The tool comprises a finger grip 12 having a laterally extending pivot arm 14. The finger grip 12 is provided with a plurality of finger grip depressions 16. Connected with the laterally extending pivot arm 14 is a similarly constructed but oppositely disposed pivot arm 18. The arms 14 and 18 are connected together for relative pivotal movement about the pin 20. The upper portion of the finger grip 12 is hollowed as shown in FIG. 3 to accommodate the body 22 of a workpiece engaging means or structure 21. The body 22 is adapted to be inserted into and removed from the downwardly directed opening 24. The body 22 is also provided with an aperture 26 that is adapted to receive and cooperatively retain a ball detent 28 that is constantly urged into a projecting engaging position beyond the surface of the body 22 by a spring 30. The upper surface of the finger grip 12 has a diametrically disposed groove 32 into which a pin 34, passing diametrically through the body 22 of the workpiece engaging means 21, is adapted to seat. Thus, when the ball detent 28 is engaged in the aperture 26, the workpiece engaging structure 21 is prevented from being accidentally removed from the opening 24. The pin 34, engaging in the groove 32, prevents the accidental rotation of the workpiece engaging structure 21 in the finger grip. However, the workpiece engaging means 21 may be removed from the opening 24 by a light lifting pressure applied thereto sufficient to overcome the engagement between the ball detent 28 and the aperture 26. The workpiece engaging structure 21 also includes an tipwardly directed finger 36 that is bent at its end away from the body 22. Mounted on the finger 36 is a seat 38 against which the workpiece is adapted to rest. The oppositely disposed laterally extending pivot arm 18 is hollow to accommodate a hand grip 40 that includes a force transmitting and releasing structure generally identified by the numeral 41. The structure 41 comprises a spring 42 mounted in the hand grip 40 that bears at its upper end against a plunger 44 slidable in the top of the hand grip 40. The plunger 44 is contoured as shown at 46 in FIGS. 4, 5 and 6 to seat and retain a lever in the form of a sphere or ball 48. The upper part of the lever 48 is pressed into engagement with a positive engaging seat 50 defined in the lower end of a hinge element 52 by the force of the spring 42. The hinge element 52 is hingedly moved about a pivot pin 54 that secures the same for hinging movement relative to the interior of the pivot arm 18. The hinge element 52 is encased in or surrounded by a rubber ferrule

36 in the area of the pivot pin 54. The hinge element 52 extends beyond the top of the pivot arm 18 and into a workpiece engaging structure generally identified by the numeral 58. The workpiece engaging structure 58 comprises a body member 60 that is adapted to receive the upper end of the hinge element 52 therein and is connected to the same to form an integral working and moving part thereof by a pin connection 62. The workpiece engaging structure 58 functions in the manner of a vise and includes a pair of relatively movable workpiece engaging vise elements 64 and 65. The element 64 is fixed to an adjustable screw 66 which is threaded in the body member 60 to move the element 64 toward and away from its mating engaging element 65 in order to engage a workpiece therebetween, FIG. 1 illustrates the manner of operation of the testing tool 10 for testing the tensile strength and force resisting capabilities of a workpiece such as the connector element 68 affixed as a part of a wire or cable workpiece 70. In order to test the force resistance or capability of the workpiece 68-70, the eyelet of the connector 18 is slipped over the upper end of the bent finger 36 and downward therealong until it rests on top of the seat 38, the seat 38 is located on the finger 36 so as to be in substantial linear alignment with the face side of the vise element 65 on the workpiece engaging structure 58. The adjustable screw 66 is rotated to cause the vise elements 65 and 64 to positively engage the workpiece part 70. This linear relationship of the workpiece engaging structures 21 and 58 assures that all forces applied to the workpiece 68-70 will be in a linear direction along the effective test length of the workpiece and exerted

in opposite directions at their spaced points of engagement with the workpiece. Before testing each workpiece, the operator is given a specified tensile force or value which he knows the workpiece must be capable of withstanding during use. In order to test the workpiece 68-70, the same, therefore, must be capable of withstanding the specified or predetermined tensile force to which it later may become subjected. If the workpiece can withstand or "go" the test force applied to it, there is no need to apply an additional force to the workpiece in excess of the predetermined test force. For this reason, the present invention permits the operator to set or adjust the tool to enable it to apply only the desired or predetermined test or "go" force to the workpiece. If the workpiece fails before the full force can be applied, it is "no-go". In order to effectuate the "go..... no-go" test of the workpiece, there is provided, as an integral part of the hand grip 40, an adjustable hand grip knob section 72. The handle or knob section 72 has a spring actuator 74 that extends upward into the confines of the hand grip section 40. The spring actuator portion 74 and the adjacent interior surface of the hand grip section 40 are provided with mating threaded surfaces 76. Hence, rotation of the section 72 relative to its companion section 40 of the handle permits relative deeper penetration or withdrawal of the spring actuator 74 from the section 40 thereby varying the compression of the spring 42 and the force which the same will apply against the movable plunger 44. In order to enable an accurate setting of the force transmitting and releasing structure 41, the top of the section 72 is provided with indices that are adapted to cooperate with indices on the adjacent face of the hand grip section 40 as shown in FIG. 1 to enable an accurate and minute micrometer type adjustment of the spring 42. In operation, with the workpiece 68-70 engaged at spaced points along its length by the engaging structures 21 and 58, it is now possible to apply a linear force in opposite directions at the engaged points on the workpiece. This force is applied by way of the force transmitting structure 41 that is located or positioned axially along the handle sections 40 and 72 and transverse to the direction of the linear force applied to the workpiece. Thus, as 3,272,002 the hand grips 12 and 40 are moved toward each other about the pivot 20 in the direction of the arrows A (FIG. 1), resulting from the application of finger pressure about the finger grip 12 and palm pressure of the hand to grip section 40, they simulate a plier-type motion. The force transmitted by way of the handle 40-72 to the workpiece engaging structure 58, to the workpiece 68-70, is accomplished through the force transmitting structure 41. During the application of a testing force to the workpiece, the lever or ball 43 is retained between the seat 50 of the hinge element 51 and the contoured force transmitting seat 46 of the plunger 44. However, when the force applied to the workpiece exceeds that of the force for which the spring 42 acting between the spring 15 actuator 74 and the plunger 44 has been preset by the adjustment of the knob 72, the lever 49 is caused to ride up and out of the contoured seat 46, and into an adjacent narrowed non-force transmitting guide release groove 78 (see FIG. 6). As the lever 43 pops or rides out of its seat 46 in the plunger 44 and into the release groove 73, it emits an audible pop or sound. This is immediately followed by a tap made by the hinge element 52 as it strikes against the interior surface of the pivot arm 18 as shown in FIG. 5. When this happens, the new position (FIG. 5) of the hinge element 52 is such as to prevent the application of an additional linear force to the workpiece. The handle falls limp in the hand of the operator. However, immediately upon the release of hand squeezing pressure 30 between the finger grip 12 and the hand grip 40, the lever ball rolls down the groove 78 and back into its force transmitting contoured seat 46 to its operative position as shown in FIG. 4 thereby permitting the tool to be used once again. Thus, it will be recognized that the pivoted movement of the handle and its force transmitting structure 41, related transversely to the workpiece, is transformed to a linearly directed force to the workpiece. However, when the applied linear force exceeds the predetermined setting of the spring 42, the force transmitting structure automatically becomes inoperative. Moreover, it emits a sound that is perceptible to the audible senses as well as creating a striking vibration in the tool that is perceptible to the tactile senses. When this occurs, the tool is incapable of applying additional testing forces to the workpiece. By virtue of its manner of operation, the testing tool 10 has the ability to perform a "go" or "no-go" test. Hence, when the workpiece is capable of withstanding the test, it is said to "go," when it fails the test, it is said to be "no-go." Referring now to FIG. 7, there is disclosed the same testing tool 10 as described with respect to

FIGS. 1 to 6 inclusive. However, in the embodiment shown in FIG. 7, the workpiece engaging structure 21 has been removed 55 and a vise-like workpiece engaging structure generally identified by the numeral 53a has been substituted in its place. The vise-like structure 58a of FIG. 7 is similar in detail to that of the structure 58 previously described and is adapted to be employed when a workpiece of the 60 type 68a-70a is adapted to be tested. In such situation, the workpiece 68a-70a must be engaged at two distant points along the length thereof by a positive vise-like engaging structure as shown. Because the structure 58a is so similar to that of 58 previously described, like details are similarly numbered and a duplicate description omitted. However, the structure 58a includes a body 22a that has a locating pin 34a adapted to seat in the groove 32 at the top of the laterally extending pivot arm 14 to prevent rotation of the vise 70 structure 53a relative to the arm 14. The body 22a is provided with a spring pressed protruding ball detent 28a that is adapted to seat in and cooperatively engage with the aperture 26 defined in the arm 14. Referring now to FIG. 8, there is shown a modified 75 form of workpiece engaging structure 21b that includes

5 a body 22b. The similarity of the structure 21b to that of the workpiece engaging structure 21 of FIGS. 1 and 3 should be readily apparent. Its use, however, enables it to accommodate workpieces of the type shown in FIG. 8. The workpiece in FIG. 8 comprises a pin type electrical connector 68b that is fixed to a wire or other workpiece element 70b. The body 22b is provided with a reception slot 23b defined radially inward from the face thereof. The slot 23b is adapted to receive the pin of the connector element 68b. The pin connector 68b is retained in the slot 23b by the threaded engagement of the lock screw 66b. When the workpiece engaging structure 21b is utilized with the tool 10, it too is provided with a locating pin 34b that is adapted to coincide with and seat in the groove 32 of the arm 14. The structure 21b is retained in engagement with the arm 14 by virtue of its ball detent 28b projecting outward for mating cooperation with the aperture 26 of the arm 14. The embodiment of the testing tool shown in FIG. 9 is generally identified by the numeral 100. The detailed elements thereof are numbered in the 100 series. The tens numbers of such identifying numerals correspond, wherever possible, to like numbered elements and details of structure previously described with respect to the testing tool 10. The testing tool 100 comprises a bench type stand 112 that will enable the tool to accommodate larger workpieces and enable the application of testing forces much in excess of those capable of being applied to a workpiece by the embodiment 10 of the testing tool previously described. The bench type stand 112 includes a U-shaped support 114 on which a pivotable member 118 is pivotally mounted by the pin 120. Included within the pivotable member 118 is a hand grip section 140 that is connected to an adjustable movable hand grip section 172. The relationship of the member 118 and its hand grip sections 140 and 172 to like elements 18, 40 and 72 respectively of the testing tool 10 should be readily apparent. Included within the hand section 140 and the pivotable member 118 is the force transmitting and releasing structure 41 previously described with respect to the plier-type testing tool 10. In FIG. 9, the hinge element 52 and surrounding rubber ferrule 56 of the force transmitting structure 41, are illustrated. The hinge element 52 is pivotally connected in the interior of the pivotable member 118 by the hinge pin 154. Its opposite end is immovably mounted by the pin connection 162 in the workpiece engaging structure generally identified by the numeral 158 in the same manner as described with respect to the plier-type testing tool 10. Thus, the hinge element 52 pivots within the pivotable member 118 and is positively connected to the body 160 of the workpiece engaging structure 158 at the pin connection 162 for operation in the same manner as was described with respect to the tool 10. The workpiece engaging structure 158 includes, then, body member 160 that is slotted radially inward at 123. A threaded pin 180 extends axially along and for a portion of the length of the body member for threaded adjustment relative thereto for engagement with a workpiece positioned in the workpiece receiving slot 123. Manual adjustment of the screw 180 is afforded by the knob 182. The stand 112 is adapted to be secured to any convenient bench or surface by screwing or otherwise securing the same thereto at the openings 184. An adjustment guide or slide 186 is provided along the vertical face of the stand and along which a vise-like workpiece engaging structure 121 is adapted to be adjusted. The structure 121 is similar in detail and operation to the workpiece engaging structure 58 of the testing tool 10. It comprises a body member 188 that

is grooved to ride along the vertical len.- th of the guide or slide 186. A pair of set screws 190 are adapted to enga.-e an adjacent face of the slide 186 to retain the workpiece engaging structure 3,272,002 6 121 in any desired vertical position of adjustment along the face of the stand 112. A threaded screw 166, having a manually engageable knob 167, is adapted to be threadably rotated in the body member 188 to adjustably move a vise element 164 toward and away from its matin.- vise element 165. A work engaging insert 169 is provided when the workpiece to be tested is relatively small, thereby eliminatin.- the requirement for a lon.-er length of adjustment or movement of 10 the vise element 164. The slot 123 and the location of the work engaging surfaces of the vise element 164 are linearly ali.-ned with each other so that the test forces applied to the workpiece 168 and 170 wUl be in alignment. 15 The operation of the embodiment of FIG. 9 is the same as that for the testing tool 10 previously described. The adjustment knob section 172 is rotated relative to its section 140 to pre-stress the spring 42 of the force transmitted and releasing structure 41 enclosed within 20 the handle section and the pivotable member 118. After the workpiece 168-170 is engaged by the workpiece en- ga.-ing structures 158 and 121 respectively at linearly spaced points therealong, the operator need merely apply a downward force to the handle in the direction of the 25 arrow A as shown in FIG. 9. This pivotal force is transmitted undiminished along the axially related parts of the force transmitting structure 41 to the body member 160 of the workpiece engaging structure 158. Thereafter, the pivotal force is trans- 30 formed to a linear force applied along the length of the workpiece 168-170. As in the tool 10, it is unnecessary for the operator to provide his full attention to the work- piece. If the workpiece is capable of sustaining or with- standing the predetermined force for which the spring 35 42 had been preset, the lever ball 48 will pop out of its seat 46 and into its release groove 78, ther&by releasing the further transmission of force from the handle 172140 to the workpiece. Substantially instantaneously with this sudden release 40 of resistance which can be felt in the handle, the popping of the ball out of its seat 46 will provide the operator with an audible sound; Almost simultaneously, the hinge element 52 strikes against the interior of the pivotable member 118 causing a vibration in the handle sections 140 and 172 that can be felt by the operator. When 45 this occurs, the operator immediately knows that the workpiece has passed the test. As soon as downward pressure in the direction of the arrow A against the han- dle sections 172 and 140 is removed, the lever 48 is caused to roll down the groove 78 back into its seat 46, 50 thereby conditioning it as shown in FIG. 4 for another testing operation. While there have been shown and described and pointed out the fundainental novel features of the invention as applied to several preferred embodiments thereof, 55 it will be understood that various omissions and substitutions and changes in the form and details of the devic.-s illustrated and in their operations may be made by those skilled in the art, without departing @frgm the spirit of the invention. It is the intention, therefore, to be lim- 60 ited only as indicated by the scope of the claims appended hereto. claim: 1. A device for testing a workpiece comprising a pair of relatively spaced engaging means movable relative to 65 each other and adapted to engage a wgrkpiece to apply a linear force thereto, means movable to cause said en- gaging means to move relative to each other, force trans- niitting means between said movable means and one of said engaging means to transmit the force of @movement 70 of said movable means undiminished directly to said one engaging means to cause the same to apply a linear force to the workpiece, said force transmitting means being operable to release the transmission of the force of move- ment of said movable means when the linear force applied 75 to the workpiece exceeds a predetermined force and to

7 provide an indication perceptible to the audible and tactile senses of the application to the workpiece of a @force in excess of the predetermined force, said movable means being a manually actuatable handle mounted for pivoted movement, a frame on wiicch said handle is pivotally mounted, and said other en,-aging means being mounted on said frame for linear movement relative thereto. 2. A device for testin,- a workpiece comprisin.- a pair of relatively spaced engaging means movable relative to each other and adapted to engage a workpiece to apply a linear forc@ thereto, means movable to cause said enga.@in@. -means to move relative to each other, force transmittin.- means between said movable means and one of said enga-ing means to transmit the force of movement of said movable means undiminished directly to said one engagin@ means tc) cause the same to apply a linearforce to the

workpiece, said force transmitting means being operable to release the transmission of the force of movement of said movable means when the linear force applied to the workpiece exceeds a predetermined force and to provide an indication perceptible to the audible and tactile senses of the application to the workpiece of a force in excess of the predetermined force, said movable means being a manually actuatable handle inounted for pivoted movement, a second handle pivoted to said first mentioned handle for pivotal movement relative thereto and connected with said other engaging means. 3. A device for testing a workpiece comprising a plierlike tool having a pair of handles each pivoted to the other for relative movement, gripping means to grip the workpiece at spaced points therealong and connected for movement with each one of said handles to apply a linear force on the workpiece between said gripping means in response to the pivoted relative movement of said handles, and one of said handles including force transmitting means adjustable to transmit a predetermined force of pivotal movement of its handle undiminished and directly to its respective gripping means and operable to release the transmission of the force of pivotal movement of its handle when the same exceeds said predetermined force. 4. A device for testing a workpiece as in claim 3, at least one of said gripping means including a pair of viselike jaws and means adjustable to cause a relative movement between said jaws to releasably grip the workpiece therebetween. 3,272,002 5. A device for testing a workpiece as in claim 3, at least one of said gripping means including a body having a detent engageable with its respective handle, and a pin projecting upward from said body. 5 6. A device for testing a workpiece as in claim 3, at least one of said gripping means including a body having a detent engageable with its respective handle, a workpiece receiving slot defined in said body, and screw means threaded in said body to extend into said slot to grip the workpiece therein. 7. A device for testing a workpiece comprising a stand, a handle mounted for pivotal movement on said stand, first gripping means on said handle, force transmitting means connected with said handle and said first gripping means and being adjustable to transmit a predetermined force of pivotal movement undiminished and directly from said handle to said first gripping means, second gripping means on said stand, and adjustable slide means on said stand to adjustably slide said second gripping means relative to said first gripping means. 8. A device for testing a workpiece as in claim 7, said force transmitting means being operable to release the transmission of force of pivotal movement from said handle to said first gripping means when the same exceeds said predetermined force. 9. A device for testing a workpiece as in claim 7, said second gripping means including a pair of vise-like jaws, and means adjustable to cause said jaws to move relative to each other to releasably grip the workpiece therebetween. References Cited by the Examiner UNITED STATES PATENTS 1,723,389 8/1929 Thiel. 35 2,400,920 5/1946 Cummings ----- 73-95 2,729,134 1/1956 Stanton et al ----- 81-52.4 X 2,759,357 8/1956 Bos et al ----- 73-141 2,782,635 2/1957 Knight ----- 73-95 2 849,879 9/1958 Schiller ----- @ 73-141 40 2:881,636 4/1959 Palmleaf ----- 81-52.4 X RICHARD C. QUEISSER, Primary Examiner. C. A. RUEHL, Assistant Examiner. 45

Full	Title	Citation	Front	Review	Classificati	Date	Reference	Claims	KWC	Draw. Des.
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TITLE: Circuit variance analyzer including scanner controlled parameter variation of the test circuit

DATE-ISSUED: September 6, 1966

US-CL-CURRENT: 324/113; 346/50

DOCUMENT TEXT:

Sept. 6, 1966 K. R. HORNING ETAL 3,271,674 CIRCUIT VARIANCE ANALYZER INCLUDING
SCANNER CONTROLLED PARAMETER VARIATION OF THE TEST CIRCUIT Filed April 28, 1961 2
Sheets-Sheet 1- 114 0 0 0 a .0 0 0 117- 01- 0 0 T@1/v @16,@ ,rla 6 z 3 20
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Sept. 6, 1966 K. R. HORNING ETAL 3,271,674 CIRCUIT VARIANCE ANALYZER INCLUDING
SCANNER CONTROLLED PARAMETER VARIATION OF THE TEST CIRCUIT Filed April 28, 1961 2
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unaccep- tajble difference between the standard and thecircuit under test. Anot-her
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minutes. Also an o-bject is to aid circuit des- igners by providin g test results
which pinpoint design errors withOLU t Tequiri ng extensiv e manipiila tion of
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is suppose d to 4operat e accepta bly although its paramet ers vary within certain
lim@its and a standard circuit having fixed paramet ers. The o@utput s of both
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circuit's mar,- .inal failure 40 rate. If there -is a material variance between the
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er limits responsi ble for the differen ce. 45 In accorda nce with another, aspect of
this - inventio n, test failures operate a multi- channel, comman d actuated , data
recorde r which includes a supply roll of paper from which a wob is drawn through the
recorde r to a take@u p reel. To make -a record of each test f ailure on the web as
it is pulled 50 through the recorde r, a plurality of normally char.-ed @apacit ors,
each individu ally associat ed with a corresp onding stage -in the binary scanner,
are selectiv ely discharg ed through individu ally :associat ed solenoid s whirh
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the takeup reel. The record printed or perforat ed on the web may thera@ft er be
studied at an operator 's con@ve nience - to deter- 60 mine what @corre cti-ve
action, if any, is require d. The above - mentio ned and otherf eature s and object s
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multi -r- hann el, com man d actu ated, data reco rder; FIG. 2, is a combi nation of
alogic andrel ay circuit -and 70 a bloc)k diagra m showi ng the circuit varian ce
analyz er which provid es the com@ mand signals for the record er of FIG. 1;
3,271,674 CIRCUff VARIANCE ANALYZER INCLUDING SCANNER CONTROLLED PARAMETER VARIATION
OF THE TEST CIRCUIT Kenneth R. Horning, Chicago, and John Massey, La Grauge Park,

Ill., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland Filed Apr. 28, 1961, Ser. No. 106,326 8 CUMS. (Cl. 324-73) This invention relates to circuit variance analyzers and more particularly to multi-channel, command actuated, data recorders for recording any variances noted when standard and unknown circuits are compared. Frequently, it is necessary to test goods to determine whether they have acceptable tolerances; sometimes called "go, no-go testing." As goods become more complex, a greater number of these tests must be performed on each piece of goods with the result that an extremely long period of time is spent in testing. For example, when it is necessary to test each of X number of variations on Y number of circuit parameters, the total number of tests to be performed are XY. Applying real figures to this formula, two variations (high-low limits) of each of six different circuit parameters is the number 216; or, 65,536 tests must be performed on each piece of goods having sixteen parameters. By this means, it would take many weeks to perform all of these tests with an obvious result that the tests are extremely costly. Another obvious result is that sometimes reliability must be sacrificed because it is not always possible to perform all of these tests at a reasonable cost or within an allowable period of time. On other occasions, it is necessary to analyze new and untried circuits to determine how the circuits will operate under all ambient environmental conditions, variations in component tolerances, and the like. Normally this is done by replacing actual with equivalent circuits which lend themselves to mathematical analysis. However, as electronic components become more complex, it becomes more difficult to write equations for these equivalent circuits. This, circuit designers, are prone either to make approximations which ignore less important circuit characteristics or to bog down in manipulation of extremely complex equations. Therefore, analyzers of the type described serve an extremely useful purpose by testing "breadboard" circuits under all conceivable operating conditions. Each failure is noted so that individual circuit components may be redesigned or replaced. Thus, by repeatedly testing, redesigning, and retesting, substantially all circuit design errors may be found and eliminated without requiring time consuming manipulations of extremely complex equations. For these reasons, much emphasis has been placed upon automatic testing equipment; however, none of the known devices has performed in a completely satisfactory manner. For example, certain testing equipment operates on a semiautomatic basis by giving an alarm or shutting down a machine if defective goods are detected. Thus, constant human supervision is required to correct faults as they occur. When efforts were made to include automatic recorders which reduce this need for human supervision, large, expensive, power supplies and control circuits were used. Accordingly, an object of this invention is to provide new and improved circuit variance analyzers and more particularly to provide multi-channel, command actuated, data recorders operated responsive to variances in a circuit tested. In this connection, an object is to make a great number of comparison tests between standard circuits and circuits under test to determine whether the circuits under test are within acceptable tolerance ranges.

3 FIGS. 3-7 are graphs which are helpful for explaining the manner in which the circuit variance analyzer operates; FIG. 8 is a perspective view of a partially wired "breadboard" matrix; and FIG. 9 is a cross-sectional view taken along line 9-9 of FIG. 8 and partially broken away to show plug and jack connections. FIG. 1 shows the principles of the invention used in connection with a multichannel, command actuated, data recorder 20. The principal parts of the recorder include a supporting structure 21, a recording medium 22 on which a record is printed or perforated, and a recorder head 23 which actually does the printing or perforating. The supporting structure 21 is here shown as a generally rectangular frame of channel iron having a number of upstanding tabs or brackets 25-28 for supporting the ends of three rollers or reels 30, 31, 32. A source of power 33, which may be an electric motor, is positioned within the frame and the recorder head 23 is positioned above the frame. The recording medium 22 is supplied from a first of the rollers or reels 31. A second of the rollers or reels 32 is a platen. The third roller or reel 30 is a take-up device on which the recording medium is wound. Thus, a web is drawn from the supply roll 31 over the platen 32, through the recording head 23, and to the third or takeup reel 30. While these three rollers or reels and the recording medium may take many different forms, in view of the commercial

availability thereof, the web 22 may be a teletypewriter "TWX" paper, the roller 32 may be a typewritten platen, and the take-up reel 30 may be an empty TWX paper spool. To maintain a uniform web tension, the motor 33 drives the take-up reel 30 via an elastic belt 35. In one exemplary device this belt is an endless coil spring. The coefficient of elasticity of the belt is selected to maintain the correct web tension, i.e. when the web tension reaches a predetermined value the belt begins to slip. If the web tension falls below this value, the motor 33 rotates the take-up reel until web tension returns to normal. With this arrangement, a solenoid operated linkage 36 associated with a line feed ratchet normally found on the end of a typewriter platen controls the paper feed. More specifically, the motor 33 turns the take-up reel 30 until the web tension reaches the value at which the elastic belt begins to slip. When the solenoid is energized, the linkage 36 pushes the ratchet and rotates the platen 32 through a predetermined angular distance. As the platen rotates, it pulls an incremental amount of TWX paper from the supply roll 31 and the web tension begins to slacken. However, before bags or slacks may form in the TWX paper the tension in the drive belt 35 falls below the point where slippage occurs, and the motor drives the take-up reel, thus returning the web to proper tension where the drive belt once again begins to slip. Means are provided for making a record of each command signal as it is received at the data recorder. More specifically, the device for making this record (recording head 23) includes a number of solenoids 38, 39 mounted in horizontal banks in vertically offset relation. Each solenoid has an individually associated armature, as shown at 40, normally spring biased to a retracted position, which is a raised position as shown in the drawing. When the solenoid is energized, its magnetic flux pulls the armature against this spring bias to an operated or lowered position. Pivotaly attached to each armature is a link or bar (as shown at 41) mounted for reciprocal, or up-and-down mechanical motion responsive to armature motion. As here shown, these bars are guided through a series of axially aligned openings in upper and lower guideways 42, 43. Thus, when the armatures are held in a normal position by spring tension, the bars are raised; and when the armatures are lowered by energization of the solenoids, the bars are lowered. The exact nature of 3,271,674 operations responsive to this reciprocal motion of the bars is not material to the invention. For example, the bars could actuate the keys of a typewriter or an adding machine. In one case they actually perforated the TWX paper. An advantage of perforating over printing is that the TWX paper may be fed directly into automatic data processing equipment. An advantage of the horizontally mounted, vertical offset solenoids is that the reciprocally sliding bars in the recording head have a close mechanical spacing. Thus, to increase the recording capacity from the sixteen channels actually shown to twenty-four channels, for example, it is only necessary to add a third bank of solenoids having reciprocally sliding bars which pass 15 between those shown in the drawing. By adding still further banks of solenoids, the recording capacity may be increased still more. An advantage of the mechanical arrangement shown in FIG. 1 is that the data recorder is assembled of reliable, low cost, readily available components of the type presently used in typewriters. The solenoids 38, 39 and associated armatures may be made from commercially available relays. The only specially built parts are the supporting structure 21 and the guideways 42, 43 for the reciprocally moving bars. These parts are relatively simple and are easily manufactured on general purpose tools. The command signals which drive the data recorder are provided by the electrical circuitry shown in FIG. 2. The basic elements of this circuit are standard circuit 50, a circuit under test 51 having a number of circuit parameters which can be varied by a relay bank 52, a difference amplifier 53, a scanner or binary counter 54, and a readout circuit 55. The circuit under test may have any electrical characteristics; it may be an entire assembly, such as a radio receiver, for example; or it may be a single component. In fact, it may be a quality control or other device which tests physical characteristics of goods and produces electrical signals indicative thereof. In a circuit variance analyzer actually built and tested, the circuit under test is either one of a number of printed circuit cards adapted to be plugged and jack connected into a larger assembly or a "breadboard" matrix having a newly designed circuit. In this analyzer, the circuit under test is inserted into one jack or socket in a test fixture and another printed circuit inserted into a second jack or socket on the test fixture. Connected to the inputs of these two circuits is a common high frequency pulse source 56. Thus, each time that source 56 produces

an output pulse, circuits 50, 51 conduct simultaneously to produce an output signal simultaneously. These output signals are fed into the difference amplifier 53 as they occur. A difference amplifier is a well known device adapted to provide an output signal only when there is a difference 55 between two input signals. In this circuit, one of the input signals emanates from standard circuit 50 and the other from the circuit under test 51. Therefore, the difference amplifier 53 produces no output signal unless there is a difference in the output from circuits 50, 51. Whether, or not there, actually is a difference in these two outputs depends upon how closely the electrical characteristics of the circuit under test match those of the standard circuit. To make a precise analysis of these characteristics, it is necessary to compare the two outputs of the circuits as the parameters of one of the two circuits vary. For example, the effects of combinations of high and low parameters limits on the circuit output may be observed. The output of the difference amplifier 53 feeds through 70 a coupling capacitor C to the input of a memory or flipflop circuit. The positive half-cycles of current flowing through this capacitor are conducted to ground through diode D and the negative half-cycles are limited by Zener diode Z. Thus, this circuit produces negative pulses of a fixed voltage that is used by the logic circuit components;

For example, if this circuit is similar to most logic circuits which respond to (-) 12 volt pulses, the Zener diode Z will clip at (-) 12 volts. Scanning means are provided for orderly selecting successive combinations of the circuit parameters which are varied for testing purposes. This scanner 54 includes a binary counting chain driven from a pulse source 57 at a relatively low pulse repetition rate. The counting chain may include a cascaded series of bistable flip-flop circuits such as the well known Eccles-Jordan bistable multivibrator circuits, for example. As those skilled in the art know, a binary counting chain of this type reproduces every possible combination of output signals which are conveniently indicated by the symbology of a truth table, as follows: Binary Output Terminal Count - Step 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 - - - - -

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0 0 0 0 0 7 1 0 0 0 0 0 0 0 0 0 0 0 0 0 Etc. In the particular example of this truth table, there are a total of 65,536 possible combinations. Each "1" in this truth table indicates that a corresponding relay in a chain of relays 52 operates and that the right-hand (as view in the drawing) input of a corresponding "AND" gate in a chain of "AND" gates 59 is energized. These "AND" gates represent either electronic or electromechanical components. Each of the relays has a contact, such as 61, connected to, choose a high or low limit of an individually associated parameter in the circuit under test 51. Therefore, as pulse source 57 drives the scanner or binary counting chain 54 step by step through its 65,536 steps (in this exemplary structure), the relays 52 operate to select all possible combinations of the circuit parameters. The scanner drive circuit extends from the pulse source 57 through an "OR" gate 65, cascaded inhibit gates 66, 67 to the input of the binary flip-flops in scanner 54. Since this chain may also be driven from other sources, a manually operated key 68 is here shown as paralleled with the source 57 via the "OR" gate 65. An advantage of this manual drive is that the circuit parameters may be varied and the circuit under test may be tested under human supervision if it should be necessary to do so. An advantage resulting from the use of the pulse sources having low and high pulse repetition rates shown here is that tests may be made for failures which occur under marginal conditions. For example, if statistics prove that a certain circuit will fail either within five operations or not at all, the pulse repetition rates of the two pulse sources 56, 57 are selected to repeat each test under each parameter condition a number of times which is much greater than the number five. If the pulse source 57 operates at less than 300 pulses per second and the pulse source 56 operates at greater than 6000 pulses per second, the circuit under test is energized twenty times for each parameter test. Thus, there is a 400% safety factor over the five tests actually required to produce failure under the assumed marginal conditions. These figures are arbitrarily chosen to illustrate the point; the two pulse sources may operate at any desired pulse repetition rate. Another advantage is that there is no need to synchronize the stepping of the binary counting chain in scanner 54 with the energizations of the standard circuit and the circuit under test																															

because the relation between the two pulse repetition rates ensures energization of both circuits 50, 51 during testing on each step of the binary counter. 6 The principal logic circuit components include Rip-flop or memory circuits 70, 71 which normally do not provide an output signal unless the input conductor (marked by an arrowhead) is energized. After this conductor is energized, current flows over the output conductors 72, 73 until the inhibit or reset terminal (marked by a heavily inked dot) is energized whereupon the output current ceases. Another type of component is the inhibit gates 66, 67 shown by semi-circles each including an inhibit terminal marked by a heavily inked dot. Normally, any signal occurring on the input terminal (marked by an arrowhead) is conducted through the gate to its output terminal. However, if the terminal marked by the heavily inked dot is energized, no signals pass through the inhibit gate and nothing appears at the output terminal. Yet another type of component is an "AND" gate, such as 74, for example. When both input terminals (marked by arrowheads) are energized simultaneously, current flows from the output of the "AND" gate through an amplifier, such as 75, to operate a corresponding relay, such as 76, in a group of control relays 77. Finally, the logic symbol for a flip-flop circuit is shown by a rectangle 84 having "A" and "B" sides, a multivibrator, for example. Each pulse applied to the input conductor (marked by an arrowhead) switches the output to the side opposite to the side on which it is then standing. Thus, if the flip-flop stands on its "A" side and three pulses are received, for example, the output conductors are pulsed in the order "A, B, A." This particular flip-flop circuit automatically resets so that its output appears on its "A" side at the start of each operation. In carrying out this invention, the control relays in group 77 selectively discharge a plurality of normally charged capacitors to provide the command signals fed, 35 into the data recorder of FIG. 1. The capacitors (one of which is numbered 78) are charged via a parallel circuit traced from a positive battery 79 to a ground 80. In series with each of these capacitors is a resistor (such as 81) which limits current flow into the capacitor so that a discrete period of time is required for the capacitors to charge. Near the top of FIG. 2 is shown a plurality of solenoids 38, 39. As shown in FIG. 1, these solenoids operate the reciprocally moving bars which actually print or perforate the TWX paper. 45 Thus, when any control relay closes its contacts, the associated normally charged capacitor discharges through a solenoid to make a record on the TWX paper. For example, before a test failure is detected capacitor 78 charges. Then, assuming that a failure occurs on the first 50 binary count step of the scanner 54 (see the truth table above), relay 76 operates because the difference amplifier 53 triggers flip-flop 70 to energize the left-hand input of "AND" gate 74 at the same time that scanner 54 energizes the right-hand input. When relay 76 operates, contacts 55 82 close to discharge capacitor 78 through the solenoid 83, thereby moving the bar 41 (FIG. 1) to make a test failure record on the TWX paper. An advantage resulting from these uses of charged capacitors to energize solenoids which control the recorder mechanism is that the power for each recorder operation accumulates over a period of time. Thus, the batteries or other power supplies may have a much smaller capacity than they would have if they were subject to instantaneous demand for full power. This eliminates the need for large, expensive power supplies. With the foregoing description of the components in mind, it is thought that the invention will be understood best from the following description of how the circuit variance analyzer operates during an actual test. First, a supply of TWX paper is loaded into and a web is drawn through the recorder. Then, the standard circuit 50 is plugged into one jack or socket in a test fixture and the circuit under test 51 is plugged into another jack 75 or socket. Next, the electrical circuit is energized and

3,271,674 7 the control capacitors, such as 78, charge. A pulse from the low frequency source 57 is applied through the inhibit gates 66, 67 to drive the scanner 54 through its binary counting cycle. On each step, a circuit is completed from the scanner 54 to relays 52 for selecting the circuit parameters and to the right-hand input of the "AND" gates 59. Simultaneously, the pulse source 56 energizes both the standard circuit 50 and the circuit under test 51 with the parameters chosen by the relay operations. Assuming that the circuit under test 51 meets all test requirements, no current flows from the difference amplifier 53 and nothing is recorded on the web 22. After all tests are completed without detecting any material difference in the outputs of the two circuits, the circuit under test 51 is replaced by a different circuit and the tests are repeated. Means are provided for detecting

differences between the output of the circuit under test and the standard circuit. The exact nature of the difference which may occur in these signals depends upon the nature and parameters of the circuits being tested. For example, in each of the FIGS. 3-7 the output of the standard circuit 50 is shown by a solid line curve and the output of the circuit under test 51 is shown by a dash line curve. Voltage changes are plotted along the vertical axis and time is plotted along the horizontal axis. When both circuits 50, 51 have the same characteristics equal potentials are applied to the difference amplifier 53 and there is no output from the amplifier 53. On the other hand, if there is a significant variance in the output of the two circuits, the output of the circuit under test may extend over a longer or shorter period of time than the output of the standard circuit, as shown by the notation A_t in FIG. 4. Thus, the two output voltages are different by the amount shown in the cross-hatched area of FIG. 4 and that difference causes a current flow from the difference amplifier that triggers flip-flop 70. In FIG. 5, the difference between the output of the standard circuit 50 and the circuit under test 51 is a matter of voltage amplitude, AV , as shown by the crosshatched area. In FIG. 6 the output of the two circuits varies as a function of frequency and the difference shown by the cross-hatched area is amplified in the difference amplifier 53. In FIG. 7 the two output signals have an arbitrary envelope shape which cannot be predicted-random noise, for example. However, since pulse source 56 switches the circuits 50, 51 "off" and "on," the two signals are sampled during recurring time frames defined by the pulses from source 56 as they energize circuits 50, 51. Current flows from circuits 50, 51 into difference amplifier 53 during individual time frames, here designated by the symbols t_1 - t_6 . Therefore, during time frames t_3 , t_4 when there is a difference amplifier 53 conducts. In another circuit the source 56 may have a sinusoidal output and the signals fed into the difference amplifier are compared continuously. In any event, when a difference voltage occurs, it is amplified by the difference amplifier and applied through the coupling capacitor C to trigger the memory or flip-flop circuit 70. The flip-flop turns "on" and inhibits the gate 66 to stop the advance of the scanner 54. The output of flip-flop 70 also energizes the left-hand input of each "AND" gate 59 and starts a 1.5 second pulse source 90. This source may be a free-running multivibrator, for example, which produces a pulse every 1.5 seconds (as shown by waveform 1) as long as it is energized from flip-flop 70. If it is assumed that a test failure occurs on the first binary count step (as shown above in the truth table), scanner 54 energizes the right-hand input terminal of "AND" gate 74 while flip-flop 70 energizes its left-hand input terminal. Current flows from "AND" gate 74 through amplifier 75 to pulse rate relay 76 and close contacts 82. After 1.5 seconds, source 90 pulses flip-flop 84 and current flows from its "A" side through amplifier 91 to operate an interlock relay 92. Responsive thereto, contacts 93 close to operate a power relay 94; contacts 95 open to break a capacitor discharging circuit through paper advance solenoid 85; and contacts 97 close a capacitor charging circuit traced from (-) battery through capacitor 98, contacts 97, and resistor 99 to (+) battery. When relay 94 operates, contacts 101 close a circuit 10 traced from normally charged capacitor 78, through contacts 82, solenoid 83, and contacts 101 to ground. Diode 102 provides spark protection. Solenoid 83 attracts armature 40 (FIG. 1), which lowers bar 41 to perforate the TWX paper 22. After the capacitor 78 discharges sufficiently, the bias spring of the armature 40 raises the bar 41 to a normal position. Means are provided for advancing the recording medium after each test failure is recorded. More specifically, after another 1.5 second period, another pulse from source 90 drives flip-flop 84 to its "B" side. The input of a delay circuit 103 is energized, but no current flows to the winding of a reset relay 105 for a period of time which is adequate to ensure proper circuit operation. Current ceases to flow through amplifier 91 when flip-flop 84 switches "off" its "N" side. Relay 92 releases; contacts 93 open to release relay 94; contacts 97 open to break the capacitor charging circuit; and contacts 95 close to discharge capacitor 98 through solenoid 85. Diode 106 gives spark protection. When solenoid 85 is energized from capacitor 98, its flux pulls linkage 36 (FIG. 1), the associated ratchet rotates platen 32, and the web 22 is pulled through the recorder. When delay circuit 103 times out and energizes reset relay 105, contacts 107 close to switch "on" flip-flop 71. Its output inhibits gate 67 and resets flip-flop 70. Gate 66 conducts after flip-flop 70 resets; however, the inhibited gate 67 prevents pulse source 57 from driving scanner 54. When flip-flop 70 turns "off," "AND" gate 74 ceases to conduct, relay 76 releases, contacts 82 open, 40 and capacitor 78 recharges slowly

through resistor 81. Also, when the flip-flop 70. turns "off," the 1.5 second pulse source 90 switches "Off," flip-flop 84 returns to normal, and current through delay circuit 103 terminates to release relay 105. After relay 105 releases, contacts 108 45 close to reset flip-flop 71. After flip-flop 71 resets, gate 67 is no longer inhibited, and pulse source 57 drives the scanner 54 to conduct the next test. Means are provided for testing newly designed circuits to determine whether they will function in the required 50 manner under all possible high-low parameter conditions. To accomplish this, a "breadboard" matrix (FIGS. 8, 9) is provided to receive and hold the lead wires of electrical components which form the circuit under test. This matrix includes a plate of insulating material 110 carrying a series of electrically conductive terminals, two of which are numbered 111, 112. The upper ends of these terminals are here shown as screws 113, 114; however, they may also be spring clips or the like. In any event, the upper ends provide a way of quickly and easily assembling and replacing components. The lower ends of these terminals 115, 116 are here shown as having the well known "banana plug" configuration-, although, other configurations may be used also. Associated with the circuit variance analyzer is a test fixture 117 -having a number of jacks 119, 120 imbedded therein. These jacks are geometrically arranged to receive the banana plugs of the breadboard matrix, thus electrically connecting the components of the circuit under test into the circuit variance analyzer. 70 The newly designed circuit is wired into the "breadboard" matrix as shown generally at 121. For example, the leads of a resistor 122 may be secured into position by the screws on the upper ends of the terminals 123, 124. Then the "breadboard" matrix is placed over the test fixture 117 with the banana plugs 115, 116 aligned over the

9 jacks 119, 120. The "breadboard" matrix is pushed into position and the newly designed circuit is tested in the above described manner. If a test failure occurs when relays 52 apply high-low parameter conditions to resistor 122, for example, it is only necessary to loosen the screws of terminals 123, 124, replace the resistor 122 with another component, tighten the screws, and retest. In this manner, the newly designed circuit may be tested, redesigned, and retested until it operates in the desired manner under all parameter conditions. Moreover, all of this is accomplished expeditiously and without requiring extensive manipulation of complex equations. In this manner, the circuit successively and automatically tests a great number of circuit parameters on a "no-, -o" basis and makes a record of each test failure. Thus, the testing is completed at electronic speeds without requiring close human supervision. On the contrary, the human supervisor may check the result of a vast number of tests at his convenience by studying data recorded on the TWX paper. Thus, the general level of circuit reliability is greatly increased because unknown circuits may be given 100% testing. It should be understood that the foregoing description of a specific example of the invention is not to be considered as a limitation on its scope. We claim: 1. A circuit variance analyzer for detecting variations in the output of a circuit under test, comprising a standard circuit having output characteristics corresponding to the desired output characteristics of said circuit under test, scanning means driven at a relatively low rate for providing predictable combinations of scanning outputs, selecting means operated responsive to said combinations of outputs of said scanning means for selecting successive combinations of control circuitry, said control circuitry operated to vary the parameters of said circuit under test, means driven at a relatively high rate for simultaneously, repeatedly energizing the input of said standard circuit and said circuit under test to cause said circuits to produce outputs, - comparator means operated responsive to differences in the outputs of said standard circuit and said circuit under test for providing command signals, printout means operated responsive to said command signals and said scanning outputs for visually indicating said differences on a recording medium. 2. The circuit variance analyzer of claim 1 wherein said print-out means comprises a plurality of capacitors and associated print-out solenoids, and control means operated responsive to the outputs of said scanning means and said command signals for controlling said print-out means to discharge selected one of said capacitors through said associated print-out solenoids to operate said print-out solenoids. 3. The circuit variance analyzer of claim 1 wherein said high rate is in the order of 20 times said low rate. 3,271,674 4. The circuit variance analyzer of claim 2 wherein said print-out means comprises at least one normally discharged capacitor and associated solenoid, and means responsive to

United States Patent Office 3,182,498 3,182,498 A, MCRAFT TAKEOFF MONITOR Harold Kolesky, Syo@vset, and Albert L. de Graffcnried, Douglaston, N.Y., assignors to Avien, Inc., Woodside, 5 N.'Y. Filed Mar. 10, 1959, Ser. No. 798,425 2 Claims. (Cl. 73-178) This invention relates to aircraft take-off monitors and in particular to a Qimple and rel-lable system suitable for 10 measuring and indicating the takc-off-performance of an aircraft. It is intended to assist the pilot in effecting safe takeoffs under operatitig and runway conditions encoun- tered in military or commercial service. The need for instrunier@tation to aid the pilot in effect- 15 ing a take-off has become increasingly evident since the introduction ffi the jet powered aircraft. The application of jet aircraft to cornmercial transport operations, @vhcre passei)ger safety is a paramount consideration, and the high rate of accidents in military operations has emphas- 20 ized the requirement for a moiitor system that wotild au,oment pilot judgment in evaluating takeoff performance and in making the necessary decisions to accomplish a safe takeoff oii the available runway. The possibility of an engine failure during takeoff in- 25 fluences takeoff procedures and is considered in all take- off planning. Nlith an engine failure, the pilot must be able to eit.ier stop or takeoff saf@ly. Consideration is also made in the takeoff planning procedures for subnormal acceleration occurring for reasons other than engine 30 failure. For a better understanding and to avoid ambiguity, there are defined hereina'lter technical terms..common to aircraft operations. The "Critical Field Length" is defined as the length of 35 ru,i-way required for an airplane to accelerate to a particu- lar speed ivith aH engines operating nori-nally and at that Q@need be able to stop by the end of the runway or in the same remaining distance talceoff with one engine not oper- ating. The available runxay length should be equal to or 40 longer than the critical field length. Critical field length charts are provided in standard handbooks and operational manuals for each aircraft which tak-e into account the effects of airplane gross wei.-lit pressure, altitude, outside air temperature, and 45 wet or'dry rtinway conditions. "Takeoff-Distance" is defined as the actual length of ru@iv;ay used from the start of the ground roll until the air lane becomes airborne. Takeoff distance charts are ,P provided in the usual operating manual for various com- 50 binations of gross weight, presstire, altitude and air tem- perature. "Refiisal-Speed" is defined as the highest speed to which the airplane can be accelerated and still be stopped on the runway. When the rules for critical field length are 55 observed, a takeoff on five enginp-s will always be possible for a six-engine aircraft, if an engine failure occurs at or above the refusal speed. In the case where actual runway length is equal to the critical field length, a five-engine takeoff may be made in the same distance as is required 60 to stop from refusal speed. Reftisal speed charts are avail- able which take into account gross weight, pressure, al- titude, and actliat runway length. "Refusal-Distance" is defined as the distance requil@e'd to accelerate to refusal speed when acceleration is normal. 65 Refusal distance may be obtained from standard aircraft speed and distance charts. The "Decision-Point" is a point on the runway reached before the refusal d;istance is traversed. In order to com- pensate for the tiiiii-. lag resulting from human reaction 70 time and equipment respoisse tim-@, a point on the runway, Patented May 11, 1965 2 short of the refusal distance is selected. At this point desig@ia'ed the "decision- point" the pilot miist decide on the course of action to pursue and to act accordingly. The refusal-speed which approximates the desired grotind-speed at the decision-point may be selected bearing in mi-@id that "desired velocity" to be set-in the instrurrictit may differ s'iightly from the refusal speed as determitied from standard charts not allowing for the difference bp-tnveen the refusal-distance and the decision-point distance. Milita,ry experience has demonstrated that even wi highly experie-iiced pilots, the jet takeoff- may be subject to pilot error. In additioii to the need for evaluating such factors as thrust, acceleration and distance against gross weight, runway conditions, wind, t) ressure altitude and temperature (as with propeller driven planes), the particular characteristics of the jet talceoff impose severe demands for precise l)ilot judgment. Analysis of the takeoff problem has shown that R-on-ie of the principal factors leading to pilot error during takeoff are: (a) The low noise and vibration associated with jet aircraft fail to provide auditory and kinesthetic cues for

evaluation.- takeoff performance. (b) There are wide differences in takeoff performance in any given type of aircraft because of variations in operational weight, and variations in thrust with altitude and temperature. (e) The long ground roll and high takeoff speeds characteristic of many jet aircraft -Provides little margin between the required takeoff distance and available runway. (b) The flat speed-thrust characteristic of the jet aircraft, lift requires that the takeoff speed be selected with great accuracy and occur at exactly the correct position on the runway to assure both adequate lift and safe clearance of off-field obstacles. Recognition of these factors by the military operating agencies had led to the establishment of takeoff procedures involving the use of runway distance markers, and either a one or a two-point comparison of speed versus distance during takeoff. When it is considered that for a typical fighter aircraft the time interval between the acceleration check distance and the refusal distance may be as little as 1.8 seconds, the deficiencies of these procedures become apparent. Moreover, the use of runway markers burdens the pilot's visual capabilities and compels him to divert his attention from the runway and from his instrument panel during critical moments of the takeoff. Experience has shown also that these procedures are of doubtful utility at night or under other conditions of poor visibility. Past attempts to develop instrumentation to assist the pilot in evaluating takeoff performance have been based upon determination of power plant performance, or have attempted to superimpose additional functions, such as an indication of elapsed time, upon the airspeed indicator. These systems have shared common deficiencies in that they failed to reflect the critical factors affecting takeoff, or they unduly complicated primary flight instrumentation. Accordingly, there is disclosed hereinafter a simple Go/No-Go indication that tells the pilot whether or not takeoff is proceeding normally, and if it is not, to advise him in time to effect a safe stop on the available runway. Operation of the system involves the measurement of only one variable . . . the distance over which the aircraft has travelled along the runway. This measurement is performed automatically and continuously during takeoff by means of a single sensor. In addition to its accuracy, simplicity and reliability, the system provides the following features: (a) It is applicable to all types of aircraft, for any takeoff conditions.

(b) Use of the system for any takeoff requires insertion of only two bits of data, obtained by the pilot or dispatcher from standard flight handbooks as part of the presently employed flight preparation routine. (c) Only one operating control is employed. (d) Operation of the system is based upon logic almost identical to the pilot monitoring technique presently used, thus minimizing pilot familiarization time and effort. (e) Operation is independent of other instrumentation and requires no cross-referencing of readings or reference to outside distance markers. (f) Operation of the system is controlled by the pilot, and is not dependent upon aerodynamic or other auxiliary actuation. (g) An important feature of this invention is that it can be retrofitted into operational aircraft without the need for major aircraft modifications and without degrading existing instrument displays. Briefly stated, the takeoff monitor disclosed is essentially a speed and distance comparator that, (a) Continuously measures the distance over which the aircraft has travelled along the runway, (b) Continuously computes the ground speed of the aircraft during the takeoff run, (c) Compares the ground speed with a previously preselected distance with the normally expected speed for the particular aircraft and takeoff conditions, and (d) Indicates normal or subnormal performance at that distance by means of a "Go" or "No-Go" signal. For its operation, the speed and distance references are pre-calculated by the pilot or dispatcher from handbook data and stored into the system prior to each takeoff. By utilizing pre-calculated reference values the need for complex computer circuitry is avoided, and maximum simplicity and reliability are achieved. Still other features and objects of this invention will be in part obvious and in part pointed out with particularity as the following description proceeds. In the drawings: FIGURE 1 is a pictorial representation of the system comprising indicator and control means, a sensing element positioned in operating relationship to an aircraft wheel shown attached to a landing gear, and a high permeability strip of magnetic material mounted on the wheel. FIGURE 2 is a system block diagram. FIGURE 3 is a circuit diagram of the system. FIGURE 4 shows in elevation a potentiometer, associated potentiometer shaft position sensing switches, and a shaft position reset spring, FIGURE 5 is a circuit diagram of a typical pulse

amplifying-, and stretching circuit. System components The basic design of the takeoff monitor is shown in the elementary system diagram of FIGURE 1. As is shown in the diagram the system consists of three basic units; (a) Wheel revolution sensor.-This is a miniature pulse generator weighing less than two ounces, which mounts on the landing gear structure and provides the basic distance signal by sensing wheel revolutions. The unit develops a voltage pulse each time a small ferrous armature, mounted on the wheel rim, passes the sensor's sensitive face. As a result, wheel revolutions are sensed without the necessity for any mechanical contact or linkage with the wheel. (b) Comparator unit.-All measurement circuitry, with the exception of the sensor, is contained in this unit, which is mounted at any convenient location in the crew's compartment. The unit, includes internally adjusted controls for setting in the decision distance and speed, in feet and knots, respectively. The set-in values are visible on a digital index over each of the adjustment knobs. (c) Indicator unit.-This is essentially an illuminated bar which provides the Go/No-Go signal. Depending upon takeoff performance, the bar may be illuminated 3,182,403 4 green (for "Go") or red (for "No-Go"). The unit also includes a digital register which provides the pilot with a continuous indication of the distance over which the aircraft has progressed along the runway. Principles of operation Operation of the system can be seen from the block diagram of FIGURE 2. Measurement of the distance over which the aircraft has progressed along the runway is accomplished by converting wheel revolutions into short voltage pulses generated by a ferrous lamination passing a variable reluctance sensor and counting these pulses continuously during the takeoff run. These voltage pulses are used to actuate a digital-to-analog converter to provide a voltage which at any moment during the takeoff run, is proportional to the distance travelled by the aircraft along the runway. This distance voltage is continuously compared with a reference voltage, representing distance to the decision point, which is set into the system by the pilot prior to takeoff. The ground speed of the aircraft is determined by differentiating the distance travelled voltage with respect to time by means of a position servo and tachometer generator. This "speed" voltage is compared with a second 25 reference voltage, representing Go/No-Go speed also precomputed and set into the comparator before takeoff. In operation, when the distance voltage derived from the total number of wheel pulses equals the voltage representing the decision point distance, a relay closes, applying voltage to an indicator lamp. If at the time the decision point distance is reached the aircraft has attained the required speed, appropriate circuits will already have been closed and a green "Go" signal will appear on the indicator. If the speed of the aircraft at the decision point is below its required Go/No-Go velocity, appropriate circuits will energize the light on the indicator. Optionally, an interruptor may be used to periodically open the lamp circuit to provide a flashing signal. Design of the system, and particularly its arrangement of interlocking switches, is such that a "Go" indication can be obtained only when the decision point distance has been reached and aircraft speed is equal to or greater than the speed required at that point. Avoidance of intermediate indications during the takeoff run eliminates ambiguity and the need for pilot interpretations. Electrical and mechanical design of the disclosed takeoff monitor has been directed toward simplicity, reliability, and ease of application to all types of military and commercial aircraft. The use of a single sensor for determining both distance and velocity contributes to the simplicity and reliability of the system, and eliminates the necessity of tapping into pitot-static lines. Except for the armature, the sensor employs no moving parts and requires no external excitation, thus providing high service reliability and permitting connection to the comparator by means of a single shielded wire. The electrical characteristics of the sensor have been specified to assure an adequate level of pulse voltages over any range of wheel revolution rates encountered in practical operations. For displaying the Go/No-Go signal, the indicator uses a semi-cylindrical light bar, fabricated of polymethyl methacrylate and surface-etched to ensure uniform highly diffuse illumination. This design provides good visibility through near-peripheral vision and permits location of the indicator outside the pilot's line of sight, where it cannot obstruct his vision during takeoff or in flight. To permit application of the system to all types of aircraft, without the need for matched units, the comparator incorporates calibration adjustments for different wheel diameters, and for lift-induced variations in rolling radius during takeoff. These are screwdriver

adjustments, which need be made only once, at initial installation of 75 the system. Where the system is to be installed in a num-

ber of aircraft of the same type, calibration can be made at the factory from wheel and lift data, eliminating the need for installation adjustments. Operating power of the system is nominal 28 volts D.C. and 115 volts, 400 cycles, single phase, A.C. normally available aboard aircraft. All connections between units are made from a standard AN connectors. Signal displays The signal displays and function controls of the takeoff monitor have been designed to ensure compatibility with practical operational procedures and to eliminate any possibility of ambiguity in use, while maintaining maximum operating simplicity. The indicator presents three types of information: (a) Operating phase. (b) Operating condition in each phase. (c) Distance travelled. The indicator display and manner of presentation are shown in FIGURE 1. Phase indication To enable the pilot to use the system during both taxi and takeoff without introducing errors into the takeoff distance measurement, operation of the system is sequenced into separate "taxi" and "takeoff" phases. Two circular lights, interlocked with the system's control switch indicate the operating phase of the system. An amber light informs the pilot when the system is in the "taxi" phase while a green light signals when the system has been prepared for "takeoff" operation. Condition indication In addition to providing the "Go" or "No-Go" signal during takeoff, an elongated illuminatable member termed the "condition light bar" indicates whether or not the system is properly zeroed before taxi and takeoff. A green illumination of the bar indicates correct zero condition of the measurement circuits, while a red signal warns the pilot when it is necessary to re-zero the system before attempting takeoff. The action of the light bar illuminating means is interlocked with the control switch and phase lights to insure correct sequencing of condition signals and Go/No-Go indications for takeoff. Distance register A digital counter on the indicator panel provides a continuous indication of distance travelled during the takeoff run, and may be used to enable the pilot to anticipate his approach to the Go/No-Go point. This register will also indicate "taxi" distance, enabling the pilot to check the operation of the system before starting the takeoff run. The register has been designed to indicate distance in increments of 100 feet using dummy zeros as the last two digits of the counter. This design avoids the distraction that would result from rapidly rotating counter wheels, while providing the precision of indication necessary for practical takeoff operations. Function controls The controls and input data indices of the takeoff monitor are shown in FIGURE 1. A single push-button switch mounted on the panel of the indicator controls the operation of the system. All other controls are mounted on the comparator unit. These are the main power switches, the distance index, the ground-speed index, and the test pulse switch. Control switch The operating control is a push-button switch which selects the desired operating phase, and at the same time adjusts the circuit for correct operation in that phase. The switch is connected so that each successive depression brings the system to the next phase in the taxi/takeoff operating cycle. By depressing the control switch once, twice or three times, the pilot may, as desired, place the system into the taxi phase, the takeoff phase, or reset it to "Off" in preparation for the next cycle. The pilot or maintenance personnel can also use the control switch to cycle the system before takeoff as a pre-flight check of its operation. Input data indices The distance set-in means is a 10-turn potentiometer, covering the range 0-10,000 feet in increments of 10 feet. The value of the set-in data is visible as a digital display, through a cutout over the index knob. The speed index is a three-turn potentiometer which may be adjusted in increments of 1 knot over the range 50 to 150 knots. The set-in values are displayed on a 15 counter similar to that used with the distance index. Both these potentiometers incorporate snap type shaft locks which insure positive indexing under all conditions of vibration and acceleration encountered in takeoff. Test pulse switch A test pulse switch is incorporated in the comparator to permit pre-flight testing of the measurement circuits. Successive on-off actuation of this switch simulates the operation of the wheel revolution sensor during the taxi or takeoff roll, and enables pilot or maintenance crew to check the operation of the distance register without the need for moving the aircraft. Main power switch A toggle switch on the comparator controls all power to the system, making the operation of the takeoff monitor independent of other instrument systems. In the following section there is

dis se t current y preferred circuit for effect- aating the operations discussed heretofore. 35 Circuit Variable reluctance sensing device 16 coilsists of a r@iagretizable cup-shaped core 18 (shown schematically as U-shaped) coaxially eiclosing a bar magnet 20. A coil 40 22 surrounds magnet 20. As a small ferrous armature 19 attached to the aircraft wheel passes the magnet 20 aid core 13 generates a positive pulse and a negative pulse in the coil 22, a coaxial cable 26 couples sensing device 16 to pulse circuit 28. The function of pulse 45 circuit 28 is to arpply the signal from the sensing device 16, and provide a pulse of a suita:ble energy level. The amplified wignal is used to energize relay coil 30. It is necessary that th-. pulse have a duration or pulse ler@gth sufficient to fully actuate armature 32. In gen- 50 eral, the pLIse circuit should provide a pulse length of from 30 to 40 milliseconds and about 6 watts of power. TLe output pulse from the pulse circuit 28 is fed to relay coil 30, which actuates an armature which engages a 10-tooth star wheel escapement 34. Ten pulsls will re- 55 stilt in one revolution of the- star wheel escapement 34. In ttirn, the star Nvheel 34 is geared through a 80 to 1 reduction gear train 36 through electromagnetic, cltitch 38 to a pair of single-turn potentiometers 40 and 42. It will be appreciated that a digital-to-analog conversion 60 has just been described whereby the numerical value of the pulses is converted to an electrical voltage that is an analog of this num--rical value. Potentiometer 40 is part of a velocity sensing ci@-cuit. As the aircraft progresses down the runway, the wiper of potentiometer 40 65 advances gradually providing a si.-nal of increasing ma.nitude to comparison transformer 44. The output of the transformer is fed to transistor ainplifier stage 46, xxihich amplifies the error signal output of transform-ler 44 and feeds it to one w.,nding 48 of motor 50. The 70 other winding 52 is energized from 115 v.-400 cycle A.C. source. Capacitor 51 in series with winding 52 serves as a phase shifting capacitor. The error signal causes motor 50 to drive the wiper 54 of rebalance pote-Titio- nieter 58 in a direction tending 75 to produce a correctio-ii voltage of the proper inagnitude

7 to reduce the error signal. Poteit-lometer wiper 54 is driven through gear train 60 coupled to motor 50 and electromagnetic clutch 62. There is also provided, as part of the aforementioned voltage differentiating means, discussed hereinabove in Principles of Operation a rate generator 64 which provides a s,@gnal indicative of the velocity of the aircraft. Rate generator 64 is coupled to motor 50. As the velocity of the aircraft increases, the speed of rotation of motor 50 increases in order to maintain rebalance potentiometer 58 in step with the change produced by the movement of the aircraft. Therefore, as the velocity of the aircraft increases the output voltage induced in output phase winding 47 of generator 64 will increase. The other phase winding 49 is energized from the 115 V. source through phase shifting capacitor 53. The output of the rate generator 64 is inserted in transform-ier 72 in phase opposition to a reference voltage obtained by varying the position of wiper 66 of potentiometer 68, which is connected to a source of A.C. potential. This reference volta-e is set by adjusting the velocity setting by means of handle 70 located on the instrument panel until speed index 71 coupled to the shaft indicates a velocity corresponding to the velocity the aircraft should have at the -decision point. An error signal is produced which is the difference between the output of generator 64 and potentiometer 68. The ertor signal is amplified by- transistor ampliier stage 74 and applied to transformer 76 which couples class A transistor amplifier 74 to a half wave phase sensitive amplifier stage 73 which has an A.C. potential applied to its collector. The phase relationship of the two signals is such that when the ma,-nitude of the si,-nal from generator 64 is greater than the signal provided by potentiometer 68, class B amplifier stage 78 will be conductive. Thus, when the velocity of the aircraft exceeds the set-in velocity, the full collector circuit will flow if a circuit exists to a source of power. Tracing 'the collector circuit, it will be seen that the collector is connected through contacts d-f of distance relay 80 (when relay coil 81 is energized) to coil 82 of velocity relay 84, and througli diode rectifier 86 to the 36 v. A.C. supply. Distaiice circitit The output signal derived from potentiometer 42 advances gradually from a minimum value to a maximum value as the aircraft t)rogresses down the runway. The signal is applied in pl@ase opposition to a reference signal obtained from potentiometer 90. Potentiometer 90 provides a set-in voltage and is controlled by ha-@idle 92 on the instrument panel. This handle is turned until the distance index 93 geared to it shows a reading corresponding to the length of the runway from takeoff start point to the decision point. An error signal

corresponding to the difference in magnitude of the signal from potentiometers 42 and 90 is fed to class A transistor amplifier 94 through transformer 96. As the aircraft advances and reaches the decision point the signal from potentiometer 42 becomes greater than the set-in signal from potentiometer 90. As a result, the signal fed to the class A transistor amplifier 94 through transformer 96 is amplified. The resulting amplified error signal energizes the half wave phase sensitive transistor amplifier 98 through associated interstage coupling transformer 100, when the signal and applied collector voltage are in phase. When class B amplifier stage 93 is triggered, full collector current is permitted to flow through relay coil 81 and diode 102, which is connected to a nominal 36 volt A.C. source, so that half-wave rectified power is fed to relay 80 whenever transistor amplifier stage 98 is conducting. The transformer connections must be such that the error signal from potentiometer 42 is in phase with the voltage applied to the collector of stage 98.

If the aircraft is proceeding with a velocity equal to or in excess of the set-in value, the transistor amplifier stage 78 is triggered so as to be in a conducting condition. In turn, velocity relay 84 is actuated, since the coil 82 is in the collector circuit of the transistor. Actuation of velocity relay 84 closes contacts k and n, thus "locking-in" the relay by permitting a steady current flow an alternate path from the 36 v. A.C. source to ground. The alternate path does not include transistor amplifier 76. Simultaneously, connection is broken between contacts h and j and made between contact j and g. At such time as distance relay 80 is actuated, at the decision point, contact b of distance relay 80 is energized by 28 volt D.C. so as to energize contact g of velocity relay 84. This results in the energizing of the green "Go" take-off condition light 110, signifying that the aircraft has sufficient ground speed at the decision point, for takeoff. The light 110 is energized through contacts i and g. If the aircraft has not achieved the set-in "Refusal 20 Speed," red "No-Go" signal lamp 204 is energized through contacts j and h. On the other hand, if the decision point is reached and the aircraft has not attained sufficient velocity, then the following cycle of events occurs; distance relay 80 is actuated, thereby opening the connection from contact d to contact f, thus locking out velocity relay 84 from being energized so that even if the aircraft should attain the velocity required after passing the decision point, the pilot will not receive a green "Go" light or "takeoff" signal. This is an important safety feature of the disclosed invention. Simultaneously with the opening of the circuit to velocity relay 84, contact b of distance relay 80 is energized. This serves to energize terminal i of velocity relay 84 which, in the unenergized condition of velocity relay 84, is in contact with terminal h. This results in the energizing of the red "No-Go" indication. As the aircraft proceeds down the runway, and the wing lift slowly increases, the rolling radius of the aircraft tire will vary in accordance with the remaining load on the tire. This results in a non-linear relationship between the number of impulses from the sensor unit 16 and the actual distance traversed. In some aircraft with a high angle of attack, such as a jet fighter, the aircraft's lift will cause an error of as much as 5% in measurement. In order to compensate for this variation, a signal could be fed into the system related to the load of the aircraft on the landing gear. The signal may be derived from a strain gage or other transducer which measures this load continuously. Another solution is to provide potentiometers 40 and 42 with a non-linear resistance characteristic curve. In the present embodiment of the invention, it is preferred to accomplish this correction by use of loading resistors 120 and 122. These resistors are shunted across their respective potentiometers to produce a non-linear relationship between potentiometer output voltage and potentiometer rotation angle. This compensates for changes in rolling radius caused by lift (which varies with air-speed squared) which gradually removes weight from the aircraft's wheels. The padding of potentiometers is a well known technique and the procedure need not be described herein. Therefore, it will be appreciated that the output rotation of gear train 60 has been rendered linear with respect to distance traversed. A mechanical output is derived from gear train 60 to drive a "distance-traversed" circuit. A commutator 130 is coupled to the drive so that pulses generated by commutator 130 making and breaking a connection to ground are in electrical connection with a pulse circuit as an indication of distance actually traveled. The ground side of a pulse amplifier circuit 132 is fed to the commutator and, in turn, to ground so that, as the commutator rotates, pulses are generated. The pulses

9 are amplified in pulse circuit 132 and used to energize coil 133 so as to actuate a digital counter 134. The function of pulse circuit 132 is the same as that of pulse circuit 28 described earlier. The commutator contact spacing, gear train ratio, and indicator are selected to 5 provide a change in indication every 100 feet; more frequent changes have been found to be distracting to the pilot. Operational use of the takeoff monitor 10 The design of the takeoff monitor has been directed toward maximum operating simplicity with minimum pilot effort. Operation of the system is based upon logic almost identical to that of the visual monitoring techniques presently employed for jet aircraft takeoffs. Its simplicity of operation is reflected in: (a) The use of only one operating control, (b) the need to set in only two elements of data prior to takeoff, (c) the use of conventional amber, green and red indications for signaling. Takeoff procedure Operation of the system is carried out in two phases. "Taxi" and "takeoff." (1) Before taxiing.-(a) The equipment is turned on by means of the main power toggle switch 150. (b) The pilot sets the distance-to-decision point and the required speed at that distance on the respective indices 9" and 71. 30 (c) The pilot depresses the control switch 160 once. The amber light goes on, indicating "taxi" phase. Simultaneously the distance register is cleared and the condition light bar 217 is illuminated green by lamp 110. This green condition light informs the pilot that the system is zeroed and prepared to measure distance during the taxi roll. (2) During taxiing.-As the aircraft begins to taxi and the system begins to measure the taxi roll, the condition signal, light bar 217 will change from green (lamp 110) - to red (lamp 204 energized). At the same time the distance register will start indicating the distance of the taxi roll. The red condition light will remain on, warning the pilot that the measurement circuits are no longer zeroed, until the system is reset for takeoff. The amber light also 45 remains illuminated, indicating that the system is still in the "taxi" phase. (3) Takeoff position.-When the pilot is ready to commence the takeoff run he depresses the control switch 160 again, turning off the amber "taxi" light 168 and illuminating the green "takeoff" light 212. This action again re-zeroes the measurement circuits and the distance register. Proper zeroing of the system is signaled by a green illumination of the condition light bar 217, indicating that the takeoff run may be started. 55 (4) Takeoff.- (a) As the aircraft starts the takeoff run, the condition light is automatically extinguished, clearing the indicator for the "Go" or "No-Go" signal. At the same time the distance register starts indicating distance travelled. This indication continues as the plane 60 progresses down the runway, permitting the pilot to anticipate his approach to the Go/No-Go point. (b) If, when the aircraft reaches the indexed decision point distance, the ground speed is less than the indexed velocity, the condition light bar 217 will display a red 65 "No-Go" signal. (c) If the ground speed at the check distance is equal to or above the indexed value, the condition light bar will display a green "Go" signal, indicating that takeoff can be safely continued. 70 (5) After takeoff.-As soon as the aircraft is airborne and the climb established, the pilot may depress the control switch again, extinguishing all lights on the indicator. The system may later be shut off by means of the main power switch. 3,182,493 10 It will be noted that the amber, green, and red signals, respectively, are coordinated to provide an indication of both operational readiness and takeoff performance. Use of these three illuminating colors serves to avoid ambiguity or the need for interpretation. The use of the red bar, with its conventional acceptance as a warning signal, to indicate when the system is not zeroed, assures that the takeoff will not be attempted unless the system is properly cleared for the takeoff run. The separation of the operating sequence into "taxi" and "takeoff" phases corresponds with accustomed procedures in takeoff operations, and in addition, provides the pilot with an opportunity to assure himself of the correct functioning of the equipment before the takeoff run. However, when desired (as for a "flying takeoff" such as used in some military operations) the taxi phase may be bypassed. Depressing the control switch twice will bring the system directly into the takeoff phase. Pre-flight check Pre-flight testing of the system is performed simply and rapidly by using the control switch and test pulse switch 216 to simulate actual operation of the system. The pilot or maintenance personnel may check the indicator lights and their correct sequencing by depressing the control switch a number of times. Proper functioning of the measurement circuits, the distance register, and the "NoGo" signal circuit can be determined by actuating the test pulse switch to simulate the

pulse from the wheel revolution sensor. Since it is not necessary to move the aircraft for this- Pre-flight check, the testing may be performed in the hangar or on the apron at any time before takeoff. Control and signal circuit operation The equipment is turned on by means of a main power double pole double throw toggle switch 150. Closing of the switch provides nominal 115 volt-400 cycle power and nominal 28 volt D.C. from the aircraft electrical system. Transformer 152 connected to the 115 volt-400 cycle supply provides 36 volt-400 cycle power, which is rectified by diodes 86 and 102 for use in relays 80 and 84, and also serves as the A.C. signal used in the self-balancing circuits. Power supply 154 is a conventional full-wave rectifier using solid-state diodes and RC filtering network and voltage dropping resistors to provide the different D.C. voltages for operation of the amplifiers. Operation of the equipment is extremely simple. After the pilot has set the distance and speed on their respective indexes 93 and 71 by means of handles 92 and 70, he depresses control switch 160 once. Closing of control switch 160 energizes stepping relay 162, which is shown here as a three-step relay. A 12-step relay has been found satisfactory with every third contact connected in parallel so that it acts essentially as a three-step relay. Simultaneously with the actuation of relay 162, re-set coil 164 of counter 134 is energized so as to clear the register contact arm 166 of relay IC-I has been advanced from contact aa to contact bb, thereby energizing amber "taxi" lamp 168 to indicate that the equipment is now in the "taxi phase." Relays 170 and 172 are likewise energized by the closing of contact switch 160. Upon energization of relay 170, circuit is completed between contacts n and p, which completes a circuit from ground at relay 170 to 28 volts D.C. source through contact gg and hh of switch 174, thus providing lock-in of relay 170 until the main power switch 150 is opened so as to completely de-energize the system. The use of the lock-in relay is necessary because switch 160 provides merely a momentary contact. Relay 172 is likewise locked in by completion of the circuit from contact t to v through contacts kk and ii through switch 176. Actuation of relays 170 and 172 is intended to zero the system. Relay 170 opens the circuit from coil 180 to q, thereby de-energizing coil 180 releasing clutch 38 from engagement. This permits a constant tension spring

182 to return potentiometers 40 and 42 to a zero position as shown in FIGURE 4. Potentiometer 40 is provided with a shaft 184 to which is coupled spring 182. Upon de-energizing of coil 180, spring 182 returns the shaft to a starting position at which point a detent 186 (FIGURE 4) engages finger 188 of switch 174 so as to close the circuit between contacts hh and jj. In like fashion, actuation of relay 172 closes the circuit between contacts w and y. This energizes coil 190 of reverse acting clutch 62. This clutch is in a disengaged condition when energized. This action permits spring 192 to return wiper 54 of potentiometer 56 to a zero position wherein a detent closes the circuit between contacts iii and iiii of switch 176. The arrangement of the detent is similar to that shown in FIGURE 4. While one clutch coil has been described as de-energized and the other clutch coil as energized, for disengagement, it should be understood that the mechanical construction could be such that either can disengage when de-energized or when energized without departing from the principle of this invention. With potentiometers 40 and 42, which are ganged on a common shaft, and potentiometer 56 reset to zero, the detents actuate switches 174 and 176. A circuit will be completed from 28 volt D.C. source through dropping resistors 200 and 202 to green light 110, if the potentiometers are zeroed. If either potentiometer is not returned to the zero position, their respective switch will not be actuated so as to complete a parallel circuit to green light 110. If only one switch has been closed, then a feeble green light will be observed because of the current limiting action of resistors 200 and 202. If both circuits are opened, the green light will be completely off. If either switch 174 or 176 is not actuated by the detent, then a red light will appear since the circuit is completed through lamp 204. This is an important safety feature to preclude the possibility of failure, of which the pilot is not aware. As the aircraft begins to taxi and the system begins to measure the taxi roll, the condition signal will change from green to red. The red condition light will remain on, warning the pilot that the measuring circuits are no longer zeroed, until the system is reset for takeoff. In order to prevent continued counting by the counter 134 during the potentiometer reset operation, the circuit is arranged to de-energize the pulse circuit at time of reset. It will be noted

that when relay 170 is closed terminal i- is de-energized. Clutch coil 180 and pulse circuit are both energized at terminal r. Thus, reset of the potentiometer is taking place, the pulse circuit is not capable of producing pulses. As the potentiometer rotates to the maximum intended rotation, say 330°, detent 136 engages finger 107 of switch 203 thereby closing switch 208 and relays 170 and 172 so as to reset the wipers of both potentiometers 40 and 42 to zero position. A limit switch 211 is similarly actuated by a detent on the shaft of potentiometer 58 to reset the wipers of both potentiometers 40 and 42 to zero position. Diode 210 blocks the pulse from acting on reset coil 164 so that even though the potentiometers have been reset to zero the counter will indicate the total distance traversed. When the pilot is ready to commence the takeoff run, he once again depresses the control switch 160. This moves contact arm 166 from position bb to cc. This completes the circuit to green light 212 indicating that the equipment is in takeoff phase condition and extinguishes amber lamp 163. The actuation of momentary contact switch 160 energizes all the circuits as previously described in connection with the taxi position. An additional relay is actuated in the takeoff position. This is relay 214 which opens the circuit between contacts dd and ff. This prevents a lamp 204 from being energized through the action of switch 174 or 176 because the potentiometer wipers are not in zero position, so that in the takeoff phase the only red light appearing is a "No-Go" signal. The pulse provided by the variable reluctance sensing unit 16 is in the form of positive and negative wave shapes. A typical pulse is shown at the input terminals 248 of amplifier 250 (FIGURE 5). The amplifier is a conventional class B transistor amplifier biased to amplify only the positive portion of the pulse. The amplified output from amplifier 250 is rectified by diode 252 so as to remove the positive pulse and locks out spurious noise. The negative pulse triggers a one-shot multivibrator 254 which produces an output pulse 15 having a duration of about 35 milliseconds. The output pulse width is independent of the trigger pulse width, provided the trigger pulse is narrower. The output pulse permits the collector circuit of transistor 256 to be conductive so that coil 258 is energized long enough to complete actuation. The pulse circuit shown may be used as a pulse circuit 29 or as pulse circuit 132 with relay coil 258 corresponding to coil 30 or 133, respectively. Switch 216 is used to generate a pulse for test of the equipment. For the counter circuit as employed in the pulse circuit 132, the test switch may be omitted. The pulse circuit may take other forms. For example, the positive portion of the incoming pulse may be used to actuate a flip-flop circuit and the negative peak of the pulse may be used to de-energize the flip-flop circuit. Many other pulse forming circuits are known to the art and may be substituted for the pulse circuit shown. The particular relay employed may require a variation in pulse length but such circuit changes are well within the scope of persons engaged in the electronics art and need not be described more fully herein. What is claimed is: 1. In combination with an aircraft provided with rotatable wheels, means carried by said aircraft for producing pulses; the number of said pulses being directly related to the number of revolutions made by said wheels and therefore to the distance traversed by said wheels, a potentiometer network, means responsive to said pulses for varying the said potentiometer network 45 to provide a first signal voltage proportional to the distance traversed by said aircraft during take-off roll, voltage differentiating means deriving a second signal voltage from said first signal voltage, said second signal voltage being proportional to the ground speed of said aircraft, means automatically comparing said first signal voltage with a voltage representative of the distance between the start of a takeoff roll and the decision point for safe takeoff for said aircraft, said distance-comparing means adapted to provide a first condition signal only if said first voltage signal exceeds said distance-representing voltage, means comparing said second signal voltage with voltage indicative of a minimum desired ground speed at the said decision point, said speed-comparing means adapted to provide a second condition signal only if said second signal voltage exceeds said speed-representing voltage, first indicator means actuated by both said first and second condition signals for indicating that said aircraft has achieved the minimum desired ground speed prior to passing the decision point and second indicator means alternatively actuated by both said first and second condition signals for indicating that said aircraft has not achieved said minimum desired ground speed prior to passing said decision point, said potentiometer network having compensation means adapted to correct for variations

of the aircraft tire rolling raditis due to 70 the lift of the aircraft as it becomes airborne, said com- pensation means comprising resistance adjustment means adapted to give said potentiometer network a non-linear cbaracteristic, whereby relatively fewer pulses resulting 75 from s,,iid airborne condition are adapted to provide an

13 increas,-@', voltage output indicative of increased clistance traversed down the runway. 2. An aircraft takeoff nionitor comprising: means to generate a first voltage analogous to the known distaice from a starting point to a decision point for successful takeoff for an individual aircraft; means to generate a second voltage analogous to the distance being traversed by said aircraft in course of a takeoff roll- first comparator means connected to receive said first and second volta.-es and adapted to yield a first output signal upon exceeding of said first by said second voltage, said first comparator ineans adapted to yield a zero output upon non-exceeding of said first by said second voltage; first relay means responsive to said first output signal; means to geilerate a third voltage analogous to tb-e l,nown minimum ground speed required by said aircraft at said decision point for successful takeoff; means connected to receive and adapted to diiterentiate said second volitage to thereby ger@erate a fourth volt analogous to the ground speed of said aircraft in cotirse of said takeoff roll; second comparator iveans conriected to receive said tl-iird and fourth voltages and adapted to yield a second output signal up@on exceeding of said third by said fourth voltage, said second comparator means adapted to yield a zero output upon non-exceeding of said third by said fourth voltage; second relay means responsive to said second output signal; and 3,182,498 14 a first visual signal indicating a "go" condition and a second visual signal indicating a "no - o" condition; said first and second relay means being interdependently int,-rconnected whereby the condition of said first output signal occurr-ing be'lore said secoid otitput signal is adapted to energize said first relay to thereby actuate said "no go" signal, and also to dis- able said second relay whereby any subsequent in- crease in speed shall be ineffective to actuate said 10 "go" signal, and the condition of said second output si.-nal occurring before said first output signal is adapted to energize said second relay into co-operative connection to said first relay whereby upon the occurrence of said first output signal said "go" signal 15 is actuated. References Cited by the Examiner UNITED STA-. ES PATENTS 807,165 9/57 Kuzyk et al - - ----- 73-178 1 _ 20 2: 922,982 1/60 lo ekstra ----- --- 33-- 178 X 2, 947,502 8/60 H ighley ----- ---- 73- 178 X OTHER REFERENCES Snodgrass: "Take-Off' Aids to Pilots," Skyways maga- 25 zine, October 1957, pages 24, '09, 90 and 91. Publication: "Takeoff-Monitors Compete for Market," Aviation Week magazine, July 28, 1958, pages 77, 78 and 79. ROBERT B. HULL, Pi-imai-y Examizer. 30 ISAAC LISANN, L. R. PRINCE, Exaniliters.

Full	Title	Citation	Front	Review	Classificati	Date	Reference	Claims	KWIC	Drawn Des
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US-PAT-NO: 2778994

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TITLE: Method of and apparatus for noise measurement or indication in an electric circuit

DATE-ISSUED: January 22, 1957

US-CL-CURRENT: 324/613; 324/420, 324/538, 324/549, 324/691

DOCUMENT TEXT:

Jan. 22, 1957 J. R. ALTIERI 2p778,994 METHOD OF AND APPARATUS FOR NOISE MEASUREMENT OR INDICATION IN AN ELEC@IRIC CIRCUIT Filed May 14, 1953 3 Sheets-Sheet I .CONSTAN VOL TAGE CURRENT IOMETER UNDER TEST AMPLIFIER v SOURCE 176 177 NEON ONE-SHOT GATE

INDICATOR MULTIVIB RATOR CIRCUIT TON OSCIL TOR -y9a POWER AMPLIFIER 1100 NO-GO REGION
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Jan. 22, 1957 J. R. ALTIERI 2,778@994 METHOD OF AND APPARATUS FOR NOISE MEASUREMENT
 OR INDICATION IN AN ELECIIRIC CIRCUIT Filed May 14, 1953 3 Sheets-Sheet 2 8 7 8 , o a
 7, IT@ 6 -3-7 26 62 8 , 5 9 1 Z3 11 -i, 38 30 76 Ir 7a 64 1- A D 6S 7Z 69 64a -'7i
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 OR INDICATION IN AN ELEC@IRIC CIRCUIT Filed May 14, 1953 3 Sheets-Sheet 3 Y16 119 83
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2 2 7 7 8 9 9 9 4 U-nited States Pate@n-t Office 2,778,994 METHOD OF AND APPARATUS
 FOR NOISE MEASUP.EMENT OR INDICATION IN AN ELECTRIC 5 CIRCUIT Joseph R. Altieri,
 Watertown, Mass., assignor, by mesue- assignments, to Acton Laboratories, Inc.,
 Acton, Mass. Application May 14, 1953, Serial No. 355,104 10 18 Claims. (Cl. 324-63)
 The present invention relates to a method of and appa- 15 ratus for,determining the
 equivalent noise !resistance in a netwo rk, and more, particularly to noise
 resistance of a mova ble contact of a protentiometer. A precision po@'Lentiometer
 comprises a Tesistor having at least two terminals, one at each end. Some - Poten- 20
 ti,ome ters have intermediate taps but for the present pui- poses they need not be
 considered. A movable contact engag es intermediate points along the resistor., Noise
 ap- pears between the moving contact and the resistor which has a resistance cliarar-
 teristic, although transitnt in char- 25 @acte r. Noise therefore appears
 electrically as the third resista nce element of a Y network. This has been de- fined
 as the equivalent noise resistance. It is the purpose of the present invention to
 measure or inra'licate the tran- sient peak value of the equivalent noise resistance
 as the 30 @thir d leg of a Y netwgrk wherein the resistor of a po- tentio meter
 comprises -two legs of @the Y network. N-oise is of fundamental importance in the
 physical and en,@i ncenng scieiiices in considering commtinication and the i-
 itilizing of intelli-enc-,. No-lse places a limit on the 35 useftil, op.-rating or
 dynamic range of electronic and elec- tromie chn@nical mechanisms. In general internal
 n@ise is that porlion of the output of any system, not originally prese nt in the
 input si n-al and not directly attributable to 9 I specifically prescribed operations
 on the input by the 40 system. Iii the manufacture of precision potentiometers the
 noise developed as a @direct result of the actuation of the potentiometer shaft
 carrying the movable contact is of great importance. The importance of noise
 developed by 45 precision po,tentioIneters has heret<)fore been the subject ,of
 various investigations. In one investigation an at- tempt was made to disrovera wire
 and contact m6terial combination which would reduce t-he noise output as well as
 enhance the lon-ev@ty of a potentiometer in motor 50 driven applications. This
 investigation used as!a criterion for the noise characteristic of a potentiometer,
 the widen- ing of a resolutidn pattem -of a -cathode ray oscillograph for observing a
 motor driven potentiometer as compared to the voltage output of a stand-ard'master
 precision po- 55 tentiometer. The difference output bet-@veen the potenti- ometer
 under investigation and th-e master potenti- ometer was supplied to a very high
 inip.-dance amplifier for operation of an oscillogr,,lph. This observation of the
 widening,of t-he resdlution pattem was a satisfactory 6 0 indication of potentiometer
 noise only ivhen it was inte- ,@rated into a system havin- - inp,,it chatacteristies
 silnilar to the, amplifier used in the test. The use of amplifiers of this type,
 however, was not feasible for production test- ing. 6 5 Another system, for
 attempting @to isolate noise -Cnera- tion in a precision potentiometer was predicated
 on the asslimption that for all practical purposes the contact arrn: on the winding
 was either perfect or was - essentially open eircuited as a result of foreign
 material lodged on 70 the wiper track of the resistance eleinent. For this pur- pose
 an oscillograph was employed and Teliance was Patented Jan. 22, .1957 2 placed on the
 widening of the time trace of the oscillograph bas&. In a variation of this system
 the potentiometer was excited from a voltage source and a resolution pattern was
 obs@rved wl-iieh depended; upon the sweep irequency @of the oscilloscbpe and the
 speed of rotation of the potentiometer.. Neit@her of these variations gave any

quantitative indication of the nature of the noise characteristic of the potentiometer under investigation. An attempt to deal quantitatively with the noise characteristic was made by exciting the potentiometer with a specified voltage through a specified series resistance. The output of the potentiometer was applied to an oscilloscope on which less than the specified number of voltages were taken as a criterion to determine satisfactory and unsatisfactory potentiometers. Such an arrangement, however, has the disadvantage in that the sensitivity of the test varies with the position of the contact arm on the winding, with the total resistance of the potentiometer, with the series resistance and with the magnitude of the voltage source. It has the further disadvantage common to all oscilloscope tests for potentiometer noise, in that it requires the human operator to discern almost small instantaneous flashes in the oscilloscope pattern which are not periodic, and which are of relatively small luminous intensity. If the sensitivity of the system is increased, this difficulty becomes greater because the largest part of the indication of a noise pulse may fall beyond the oscilloscope screen which may or may not be observed by the operator. Noise in potentiometers is perhaps primarily of two types, active and passive. Active noise may be said to consist of voltages appearing at the output terminals of a potentiometer even though the potentiometer is not excited when actuated. Such noise may be due to thermal electric effects, heating of dissimilar metals as when precious metal contacts are supplied over a resistance wire upon operation of the rotor, changes in the relative work function as the sliding contact shifts from one type of resistance wire to another or from the terminating travel portion to the resistance winding, and due to chemoelectric effects resulting from moisture contact and residual chemical or soft materials on the winding element. Passive noise in a potentiometer includes contact resistance variations resulting from variations in contact pressures, and discontinuities in contacting surfaces when the sliding contact is moved from one part of the winding to another part. It also may be due to a lack of homogeneous specific resistance at the surface or skin of the wire of the resistance element as a result of local crystallization or oxidation or it may be due, to embedded foreign material in the winding. Hence it is apparent that noise in a potentiometer may result from a multiplicity of causes. In commercial production of potentiometers it would appear that passive noise might be more susceptible of control in the manufacturing process. It further becomes evident that noise in a precision potentiometer has for some time eluded satisfactory definitions. It, therefore, seems desirable to define potentiometer characteristics, and particularly the noise characteristics as a physical property of the potentiometer independent of the test method and mechanical and electrical parameters of the potentiometer. Since it is not at all certain that there is available complete information concerning the cause of potentiometer noise in any particular unit, a definition is proposed which quantitatively defines noise in terms of an equivalent noise resistance. While such definition may not be subject to profound mathematical analysis such as that employed in determining the equivalent noise resistance relative to atomic motion, the equivalent is of convenience to bring a multiplicity of noise causes down to a common level so that they may be subject to quantitative evaluation.

3. Therefore, noise may be defined quantitatively in terms of an equivalent parasitic, transient, contact resistance in ohms appearing between the wiper contact arm and the resistance winding of a precision potentiometer when the wiper arm is actuated. The equivalent noise resistance is defined independent of the total resistance, the resolution, the physical characteristic, the total travel, and the speed of operation of the wiper arm of the potentiometer. The magnitude of the equivalent noise resistance is taken as the peak value obtained. The slider or contact arm of the potentiometer is arbitrarily required to be excited by a current of 1.0 milli-ampere or the data corrected to refer to this standard condition. In the above definition, one milli-ampere exciting current is specified to provide a common basis for standard measurements. This figure is quite arbitrary, and should not be considered to be completely restrictive. It is evident that it may prove desirable to make measurements at some other value of current. There are many reasons for this - only three of which will be outlined below. Additional reasons will come to mind to individuals skilled in this art. There is evidence to indicate that the value of the equivalent noise resistance may depend upon the magnitude of the exciting current.

This appears particularly true in regard to the passive component of the equivalent noise-resistance. It has been discovered that in some cases this passive component possesses a current sensitivity as a non-linear characteristic, and for certain applications, it may be desirable to ascertain the nature of this non-linear characteristic by making equivalent noise resistance measurements, e. g., from 1 micro-ampere to 10 milli-amperes and plotting the equivalent noise resistance values so obtained. An additional reason for desiring to make the equivalent noise resistance determination at some value other than 1 milli-ampere may be evident to those skilled in the art of computer design and potentiometer specification standardization when considering the relation of the influence of the active and passive components of the equivalent noise resistance of the potentiometer on the system under consideration. The active portion of the equivalent noise resistance usually has its peak magnitude (threshold of acceptable performance) determined by the amount of gain present following the potentiometer element and by the relation of the designed output voltage of the potentiometer to the magnitude of the active portion of the equivalent noise resistance present. This ratio is a type of signal-to-noise ratio. The passive portion of the equivalent noise resistance usually has its largest usable peak magnitude established in terms of the amount of ohmic resistance present in the circuit which is excited by the potentiometer. In some cases, in addition to this, the threshold of acceptance is established by the relation between the amount of spurious A. C. pickup in the circuit excited by the potentiometer at high impedance levels and by the recovery time characteristic of the succeeding amplifiers when saturated by the aforementioned stray pickup. In the light of these considerations, it is evident that the fullest flexibility of the equivalent noise resistance definition may be obtained and a tremendous practical advantage simultaneously accrued in regard to simplifying Production and Engineering Testing of potentiometer assemblies by assigning arbitrarily a value of exciting current in conjunction with the equivalent noise resistance determination which will cause the same magnitude of disturbing effect upon the system by the active components and the passive components of the equivalent noise resistance, acting alone. Thirdly it is evident that by assigning a very large value of exciting current during the equivalent noise resistance determination, the passive components of noise may be determined in peak magnitude essentially independently of the active noise present. Similarly, by arbitrarily requiring the exciting current to be zero, the active components of the potentiometer noise may be ascertained essentially independent of the passive noise present. Having defined the equivalent noise resistance, it now would be desirable to provide an apparatus particularly suited for determining the equivalent noise resistance in ohms independent of the total resistance of the potentiometer or circuit, the physical characteristic, the total electrical angle, the resolution, and the speed of operation. While the speed of operation may affect the equivalent noise resistance measured in a potentiometer, it can, however, become invariant by excluding resolution and the speed of operation. In accordance with the present invention there has been provided a system for determining the equivalent noise resistance of potentiometers of Y-connected networks and contacts. To eliminate sensitivity of the test where the human operator may or may not discern small or excessively large extremely transient noise variations, a visible and an audible signal of predetermined magnitude are provided upon the occurrence of a parasitic or transient variation in the contact resistance, contact voltage, or a combination thereof, in excess of a predetermined magnitude. It, therefore, is an object of the present invention to provide a system of measurement of the equivalent parasitic transient contact resistance between a contact arm, or slider and the resistor element of a potentiometer. A still further object of the invention is to provide a system for determining this equivalent noise resistance in an electric circuit. A further object of the invention is to provide a system for the measurement of equivalent noise resistance in potentiometers and variable resistors. A still further object of the invention is to provide a system for the measurement of equivalent noise resistance between two electric contacts. A further object of the invention is to provide a go, no-go tester for checking potentiometers and variable resistors with respect to a predetermined noise level. Still another object of the invention is to provide a system for the measurement of the magnitude of the equivalent noise resistance in an electric network or in a potentiometer. Still another object of the invention is to provide a potentiometer noise tester which will give uniform indications, visual

and oral, independent of the transient characteristic of the noise resistance. . A further object of the invention is to provide a peak 50 reading, voltage sensitive circuit for testing or determining the electric variations in electric contacts. Still another object of the invention is to provide a peak readin,-, voltage selisitive circuit for testing potent eters for equivalent noise resistance. A furt@her object of the invention is to provide a method for testing potentiometers and eliminatin., subjective characteristics in testing. Still another object of the invention is to provide a method f<)r measuring contact resistance of a slider or 60 contact arm of a potentiometer independently of its position on its resistance element, or the resistance value of the resistance element. A further object of the invention is to provide aii improved method for measuring the contact resistaiice ef 65 a slider or contact arm of a potentiometer irrespective of its position on the resistance element, and iTrespect@,Vc of the linearity,- non-linearity or total resistance value of the resistance element. A further object of the invention is to provide a meth- 70 od of positive indication of definite duration independently of the transient nature of iietwork noise whenever a pre-determined peak value is exceeded. A still further object of the invention is to provide a method of and apparatus for measuring the resistalice of 75 one leg of a Y-connected network irrespective of the re-

sistance values '.of the other two legs of the network. Other and further objects of the invention subsequently will become apparent by reference to the following description taken in conjunction with the accompanying drawings wherein: Figure I is a block diagram of the system 6f the present invention for testing Y- connected networks and potentiometers; Figures 2a and 2b are a detaffed circuit diagram of the system illustrated in Figure 1; Figure 3 is a circuit diagram of a standard equivalent noise resistance synthesizer circuit; Figure 4 is a graph showing a typical sensitivity characteristic of the circuit of Figure 1; and Figure 5 is a graph showing the typical accuracy and precision results to be obtained by the use of the metliod and system hetein described. Referring to Figure I of the drawings it wiR be seen that the block diagram shows that the system contemplated in accordance with the present invention employs a constant current source 11 which is connected to a potentiometer 12 w-hich is under test. The potentiometer 12 is also connected to a voltage amplifier 13 having its output connected to control a gate circuit 14, The gate circuit in turn controls a one shot multi@ vibrator 15 which controls or actuates a neon indicator 16 thus providing a visual indication upon the occurrence of a certain condition or whenever a predetermined condition has been exceeded. The one shot multivibrator 15 is also connected to control a tone oscillator 17 which is coupled through a power amplffier IS to a loud speaker 19. The operation of the one shot multivibrator therefore produces a visual indication by control of t@he oscillator 17 which is amplified by the power amplifier 18 and reproduced as a tone by the speaker 19. The on& shot multi-vibrator provides an indication of known duration independent of the transient characteristic of the equiivalent noise resistance. The gate circuit 14 establishes the go, no-go characteristic set for the particular potentiometer under test and also the width of the zone of ambiguity. The block diagram of Figure 1 is embodied commercially in a single instrument having three "input" terminals which are connected to the end terminals of a potentiometer resistor and to t@e movable contact terminal. The shaft of the potentiometer then is rotated. If the movable contact or wiper at any instant makes imperfect contact, the operator will be notified by a visual indication and an audible indication. These indications are of a predetermined duration and do not depend upon the duration or magnitude, beyo-nd the set threshold, of the transient imperfect contact known as noise. Any potentignierter tested, which results in such indication, falls into the no-go classification. Before explaining in further detail the operatio, f the present invention it is believed that reference may better be had to Figures 2a and 2b so that those skilled in the art @may appreciate the circuit details of the system set forth in block diagram in Figure 1. The constant current source 11 employs a pentode vacuum tube 21 having a fixed cathode resistor 22 and an adjustable cathode resistor 23 so that the value of the co-nstant current to be supplied may be adjusted. The screen grid of the vactium tube 21 is connected to a circuit which includes a resistor 24 having one end connected to ground, a neon lamp 25 shunted by a resistor 26 and a series, resistor 27 connected to a conductor 30 extendin@ @ to a resistor 28 which is connected to a terminal 29 in a socket 31. The neon bulb 25, resistors 24

and 26, capacitors 32, together with resistor 27 comprise a sensing circuit wherein the neon bulb 25 serves as an indicator. Positive indication is given by the extinguishing of this neon lamp when the resistance in the plate circuit of the pentode 21 exceeds by an appropriate amount 6 Eshed by the external circuit between the contacts 39 and 37 of jack 36. This external circuit includes, in the maximum case, the total resistance of the potentiometer 12 under test and the contact resistance in the slider circuit. The neon lamp 25 therefore provides positive indication when the contact of the potentiometer under test is off the active portion of the potentiometer element. Furthermore, the capacitor 32 provides for a controlled amount of integration so that this indicator 10 circuit is not actuated by exceedingly large noise impulses of short duration. A suitable by-pass capacitor 32 is connected between ground and the screen grid. The control grid of the vacuum tube 21 is connected through a resistor 33 to a portion of the voltage supply 15 system for the apparatus. The anode of the vacuum tube 21 is connected through a shielded conductor 34 to the contact 35 of a socket 36. The contact 37 of the socket 36 is connected through a shielded conductor 38 to one terminal of the resistor 27 forming a part of the 20 circuit to which the screen grid is connected. Another contact 39 of the socket 36 is connected through a shielded conductor 41 to a coupling capacitor 42 which is connected to the grid of a triode 43 which forms a part of the amplifier 13. 25 The constant current supplied by the source 11 which includes the vacuum tube 21 is connected to the potentiometer 12 under test by means of a plug 36a having a contact 35a which engages the female contact 35. The contact 35a is connected to one terminal of the resistance 30 element of the potentiometer 12. The contact 37a is connected to the movable contact or wiper arm of the potentiometer 12. The remaining contact 39a is connected to the other terminal of the resistance element of the potentiometer 12. 35 The grid circuit of the vacuum tube 43 of the amplifier 13 is provided with a grid to ground resistor 44. The cathode is provided with a cathode to ground resistor 45. The anode of the vacuum tube 43 is provided with an anode resistor 46 having an adjustable contact 47. 40 One terminal of the resistor 46 is connected to the common juncture between the resistors 27 and 28, and this common juncture is also connected to a capacitor 48 having its other terminal connected to ground. The amplifier 13 also includes a second triode portion 45 49 having its grid connected through a coupling capacitor 51 to the adjustable contact 47 of the resistor 46. In the go, no-go instrument contemplated by the present invention the adjustable contact 47 is set by a screw driver adjustment within the cabinet of the apparatus. If it were desired to measure the particular value of contact resistance, the contact 47 could be connected to a suitable indicating dial thus to provide an actual indication of the resistance value. The grid of the triode portion 49 of the amplifier 13 is provided with a grid to ground resistor 52 and a cathode is provided with a grid to ground resistor 53 which is by-passed by a capacitor 54. The anode of the triode 49 is provided with an anode coupling capacitor 56 to the grid of the triode 57 forming a portion of the gate circuit 14. The cathode of the triode 60 portion 57 is connected directly to ground. The anode of the triode portion 57 is connected to the grid of a second triode portion 58 and to an anode resistor 59. A grid resistor 61 is connected to one terminal of the anode resistor 59 and which extends to a contact 63 in the socket 31. The socket 31 has a contact 64 connected by conductor 60 to an indicating lamp 66. The socket, 31 also has a contact 65 which is grounded. The contact 64a is connected to a contact 67 arranged to be engaged by the 70 switch blade 68 of a foot switch 69. The contact arm or switch blade 68 is connected to the contact 65a which is grounded at 65 and to one end of a resistor 71. The other end of the resistor 71 is connected to a contact 72 which is manually engaged by a switch blade or arm 100,000 ohms or some other designed value as is established 7,1 73 which is connected to the contact 79a, when the foot

. 7 switch 69 is actuated, the two switch blades 68 and 73 are moved downwardly so that the switch blade 73 engages a contact 74 which is connected to contact 63a thus completing a circuit between the conductor 62 and one terminal of the resistor 28. The closing of the switch 68 completes a circuit between the grounded contact 65 and the contact 64 which is connected to the indicating lamp 66 which becomes illuminated to indicate that the foot switch has placed the apparatus in operation. The lamp 66 has one terminal connected to one end of a transformer secondary winding 75 having its other end connected to ground. The transformer

windin- 75 also supplies power to an electric circuit including an indicator lamp 76 and a series resistor 77. The lamp 76, therefore, is illuminated whenever the transformer of which the secondary winding 76 is a part is energized. The foot switch 69, therefore, merely completes a circuit so that current can be applied to the potentiometer under test, and during the times that the switch 69 is not being operated the potentiometer may be handled without fear of any shock or injury to the operator. The cathode of the triode portion 58 of the gate circuit 14 is connected to a conductor 73 which is connected to the high voltage source employing a 600 volt, 50 watt tube 79 and 81. The anode of the triode portion 58 is coupled through a capacitor 82 to the triode portion 83 of the multi-vibrator 15. The anode of the triode portion 58 is provided with an anode resistor 84 having one end connected to the common junction between a resistor 85 having one end connected to ground and a resistor 36 having one end connected to the conductor 62 which is by-passed to ground by a capacitor 87. The conductor 32 is connected through a resistor 88 to a conductor 89 which leads to the anode resistor 55 of the preceding amplifier triode 49 of the amplifier 13. The resistor 83 is provided with a by-pass capacitor 91. The grid of the triode portion 83 of the multi-vibrator 15 is connected to a coupling capacitor 92 to the anode of a triode portion 93 of the multi-vibrator 15. The grid of the triode portion 83 is connected through a resistor 94 to the conductor 89. The anodes of the triode portions 83 and 93 are connected through anode resistors 95 and 96 respectively to the conductor 89. The cathodes of the triode portions 83 and 93 are connected to a cathode to ground resistor 97. The grid of the triode portion 93 of the multi-vibrator 15 is connected to a movable contact 98 of a resistor 99 which is connected by the series resistors 101 and 102. Thus the circuit including the resistor 99, resistors 101 and 102 extends between the grounded conductor and conductor 89. The anode of the triode portion 83 of the multi-vibrator 15 is connected to the grid of a triode portion 103 of the neon indicator circuit 16 which has its anode connected directly to the conductor 89. The cathode of the triode portion 103 is connected to a circuit which includes a series resistor 104 connected to a parallel circuit including a resistor 105 parallel to a circuit comprising a resistor 106 in series with a neon lamp 107 which in turn is connected to the grounded conductor. The neon lamp 107 becomes illuminated whenever the triode portion 103 responds to the one shot multi-vibrator 15. The anode of the triode portion 103 is connected to a by-pass capacitor 108 which in turn is connected to ground. The cathode of the triode portion 103 is connected through a resistor 109 to the anode of another triode portion 111 which is a portion of the oscillator circuit 17. The cathode of the triode portion 111 is connected to ground through a resistor 112 which is by-passed by a capacitor 113. The grid of the triode 111 is connected to one terminal of a resistor 114 which is connected to a resistor 115 in series, its terminal connected to a capacitor 116 which is connected to the anode of the triode 111. The common junction between resistors 114 and 115 is connected through a capacitor 117 to ground. The junction between the resistor 115 and capacitor 116 is connected to 0, 778,994 : 8 one terminal of a capacitor 118 which is connected to another capacitor 119 having its terminal connected to the grid of the triode 111. The common junction between the capacitors 118 and 119 is connected through a resistor 121 to ground. The common junction between the capacitor 116, the resistor 115 and the capacitor 118 is connected to one terminal of a resistor 122 having its other terminal connected to ground and being provided with an adjustable contact 123 which is connected to the 10 electrode of a pentode 124. The screen grid of the pentode 124 is connected through a resistor 125 to the conductor 89. The screen grid is also connected directly to a conductor 120 which is connected to the high voltage end of the voltage regulator tube of the power supply. 15 The cathode of the pentode 124 is connected through a biasing resistor 126 to ground. The anode of the pentode 124 is connected through the primary winding 127 of a transformer 128 to the conductor 125. The secondary winding 129 of the transformer 128 is connected to the 20 voice coil 131 of the loud speaker 19. The apparatus thus far described is arranged to be energized from a suitable source of alternating current connected through a switch 133 to a transformer 134 having parallel connected primary windings 135 and 136. 25 A secondary winding 137 supplies filament current to a rectifier 138 which has its anodes connected to the other terminals of a center tapped winding 139 forming the remaining secondary of the transformer 134. The cathode of the rectifier 138 is connected to one side of a filter circuit which includes a resistor 141, a

choke coil 142 and a resistor 143. Filter capacitors 144 and 145 interconnect opposite terminals of the choke coil 142 with a conductor 146 which is connected to the wiper tap of the transformer secondary winding 139. The two voltage regulator tubes 79 and 81 are connected between one terminal of resistor 143 and the conductor 146. In parallel with the voltage regulator tubes is a resistor circuit including a resistor 147 and a resistor 148. The resistor 148 has an adjustable contact 149, which is connected by a capacitor 151 to the conductor 146 which is grounded. The adjustable contact 149 is connected to one terminal of the secondary winding 137 and to a conductor 152 forming a part of a filter circuit. Connected across the winding 137 is a resistor 153 having an adjustable contact 154 connected through a unilateral conductor device or rectifier 155 to a filter circuit which includes a resistor 156 connected to a conductor 157 which in turn connects to one terminal of the grid resistor 33 of the triode 31 of the current source 11. The other common junction between the resistor 156 and the rectifier 155 is connected to a capacitor 158, which in turn is connected to the conductor 152. The other terminal of the resistor 156 is connected to a capacitor 159 which in turn is connected to the conductor 152. A resistor 161 is connected between the conductor 152 and one terminal of the resistor 156. The conductor 157 is connected to one terminal of a capacitor 162 which in turn is connected to ground. The adjustments provided by the contacts 154 and 149 serve to establish the adjustment of the current source stabilizing circuit, comprising resistors 153, 147, 148, 156, resistor 33, conductor 157, nonlinear impedance 155 and capacitors 151, 158, 159 and 162, with transformer winding 137. This circuit makes possible very accurate steady state compensation for the quiescent operating conditions of the pentode 21 so as to cancel out shifts in operating characteristics resulting from variations in heater voltage, under conditions of varying power line voltage; thereby enabling the maintenance of constant 70 current through the contactor 35 and the potentiometer under test to a very precise degree. The apparatus comprising the system set forth in the circuit diagram of Figures 2a and 2b is primarily intended to be used for production testing of potentiometers. An apparatus of this type may be employed advantageously

for an engineering analysis of the performance of potentiometers specifically, and electric contacts in general, considerations of design and development as well as for engineering evaluation of potentiometer performance in a system in terms of its noise characteristics. Several variations and elaborations of the system set forth in the design of Figures 2a and 2b have already been investigated and include such variations as additional amplification to allow operation at lower equivalent noise resistance levels, calibrated attenuation and amplification to facilitate convenient adjustment of the no-go threshold, elaboration of the current source to permit operation at a wide variety of currents, automatic drive mechanisms to control the operation of the potentiometer actuator, and elaboration of the circuit involving jack 36 to simultaneously enhance shielding for low level operation and minimization of stray capacity. Heretofore it has been common to define an unsuitable potentiometer by the expression that it has an "open." In the past to some engineers the term "open" would mean a completely open circuit or an essentially infinite resistance between the potentiometer winding and the adjustable contact or slider. Such concept is satisfactory where the precision potentiometer is applied in a circuit where the slider or contact arm is connected to the grid circuit of a cathode follower or other high impedance device. It is now evident that this concept is merely a degenerate form of the very general concept of equivalent noise resistance propounded by this inventor for the case where the equivalent noise resistance is very, very large (equals infinity or essentially so). This limited degenerate case, however, has proved itself unsatisfactory in those potentiometer applications where the slider or contact arm is loaded or connected to another potentiometer as in the case of analogue computer multiplying circuits, or by a fixed resistor when the shaft of the precision potentiometer is being rotated. An "open" for the purposes of the present invention is defined as a malfunctioning characteristic of a precision potentiometer involving a parasitic transient resistance between the wiper arm and the actual point of contact on the resistance element winding when the wiper arm is being actuated. To be strictly correct, however, the use of the term "open" should be restricted to refer to equivalent noise resistances of exceedingly large magnitude as mentioned above. Determination of such malfunction should be entirely independent of

the potentiometer, characteristic, the speed of the test, and the operator. For certain purposes it is desirable to limit the equivalent transient resistance to a particular ohmic value. In order to adjust the circuit shown in Figure 1 to a particular standard it is convenient to employ a standard "open" or standard equivalent noise resistance synthesizer shown in circuit diagram in Figure 3. It will be noted that a male plug similar to 36a shown in the circuit diagram of Figures 2a and 2b may be employed to connect the standard "open" to the circuit of Figures 2a and 2b. A potentiometer having a resistance element 171 may be connected to the contacts 35a and 39a. When this potentiometer is employed, the position of its slider synthesizes the slider position of an actual potentiometer under test by inserting into the current source leg, or the measurement circuit leg, a value of series resistance to be synthesized. The operation of the circuit of Figure 2 is adequately trustworthy so that the resistance element 171 is not required when the calibration of the circuit of Figures 2a and 2b is the only purpose for which the synthesizer is employed. In such cases the contacts 35a and 39a may be joined by a conductor and joined to the wiper arm 172, in the diagram of the equivalent noise resistance synthesizer of Figure 3. In many other applications, the resistance element 171 may be important; one such application will be described later. The adjustable contact or wiper arm 172 is connected through two circuits, one of which includes an adjustable resistor 173 to the contact 37a. The other circuit between the contact 37a and the contact arm includes a pair of electric switches arranged in parallel. These switches have conductive segments 174 and 175 provided with a gap of any convenient length. Two contact arms 176 and 177 are connected to a common actuating shaft and so arranged that these contact arms may be displaced relative to each other in a range from .05" to 2.0". It will be noted that the two contact arms 176 and 177 serve to short circuit the adjustable resistor 173 for a predetermined portion of the total actuator position which may be adjusted by changing the relative position of conductive segments 174 and 175. The adjustment of the resistor 173 which conveniently may be a calibrated rheostat or a decade box, determines the value of the resistance which may appear between the contact 37a and the wiper arm 172 of the standard potentiometer. The decade box may be set within a range from ten ohms to approximately five thousand ohms. By connecting the standard equivalent noise resistance synthesizer shown in Figure 3, the adjustable contact 47 on the resistor 46 of the amplifier 13, may be adjusted so that no signal is produced when the wiper arms 176 and 177 are caused to rotate through the gap of the 25 conductive segments 174 and 175 and the adjustable resistor 173 is set to a value slightly less than the desired threshold value. The operation of this circuit may be observed from Figures 2a and 2b. On the other hand, when the actuator of contacts 176 and 177 is rotated through the aforementioned gap, a signal should be produced for adjustments of the resistor 173 equal to or greater than the desired threshold value for the circuit of Figures 2a and 2b. The speed of operation of the switch arms 176 and 177 would correspond to the speed of rotation of a potentiometer under test. The angular duration of the open circuit condition of these switches corresponds to the angular duration of a standard equivalent noise resistance condition. Hence it is possible to adjust the circuit of Figures 2a and 2b to determine the range of ambiguity. When the resistor 173 is adjusted to a value greater than that desired for the go, no-go condition there should be no ambiguity in the operation of the circuit of Figures 2a and 2b since it should consistently indicate the presence of an "open" circuit. When the resistor 173 is set somewhat less than the critical value, the circuit of Figures 2a and 2b should never give, any indication irrespective of the rotation of the switch arms 176 and 177. In the particular embodiment contemplated the zone of ambiguity is found to be (1.5% of the adjusted value of the resistor 173 + two ohms). This relation with respect to ambiguity is illustrated graphically in Figure 4 wherein ambiguity expressed in ohms was plotted across threshold resistance (ohms). It is believed that those skilled in the art will require no further explanation of the meaning of this graphical representation. Consider the utility of the equivalent noise resistance synthesizer of Figure 3 as an instrument to facilitate the adjustment of the go, no-go threshold of the circuit of Figures 2a and 2b as well as to make possible a determination of the zone of ambiguity has been discussed. An interesting application for the apparatus of Figure 3 for experimentally determining the peak magnitude of the passive portion of the equivalent noise resistance, of any potentiometer, that will produce a predetermined amount of disturbing effect on a system under investigation will now be

outlined. 70 The resistance element 171 of Figure 3 is connected into the system as the potentiometer under investigation, and contactor 37a is connected to the system as the slider. The actuator of contacts 176 and 177 is operated at the same speed as the actuator for contact 172. 75 The calibrated rheostat or decade box 173 is adjusted

to various values of equivalent noise resistance to be simulated and the system response evaluated by an engineer, technician, or other person skilled in this art. When a predetermined amount of disturbing effect on the system obtains the threshold magnitude (level of acceptability) of the equivalent noise resistance appearing on the calibration of rheostat 173 is noted. It is clearly evident that disturbing effect of the active portion of the equivalent noise resistance or any combination of active and passive portions may similarly be synthesized. Still another way of expressing the operation of the circuit of Figures 2a and 2b and the zone of ambiguity is shown by the graph of Figure 5 wherein the threshold resistance has been shown in ohms as against the included resistance in ohms. Thus for a particular setting of the circuit of Figures 2a and 2b all resistance values below the zone of ambiguity A would appear to pass inspection, and all resistance values which exceed the zone of ambiguity A would be greater than that which has been considered to be permissible, and hence such devices would be rejected. Whenever the circuit of Figures 2a and 2b detects a condition exceeding the zone of ambiguity A of Figure 5, both audible and visual signals will occur. In the zone of ambiguity the circuit of Figures 2a and 2b may or may not respond dependent upon various factors, but the circuit is sufficiently accurate that it is positive that there will be no response when the effective resistance value is anything below the lower edge of the zone of ambiguity A. The accuracy and reliability of the indication provided by the circuit of Figures 2a and 2b is not appreciably affected by the speed of rotation of the potentiometer slider or contact arm for very low speeds up to about 60 R. P. M. It furthermore is insensitive to the total resistance of the potentiometer provided it is less than 100,000 ohms, and the linearity or non-linearity characteristic of the potentiometer, and the total electrical angle of rotation or resolution. Perhaps a fuller appreciation of the nature of the apparatus provided by the circuit may be had by further consideration of its mode of operation. The potentiometer 12 under test is excited by current applied between the contact 35a and the conductor 37a of the plug 36a. Thus constant current of a known magnitude flows in the potentiometer winding independent of its total resistance, function, linearity or non-linearity, or the instantaneous position of the slider or contact arm. The other end of the potentiometer winding and the slider or contact arm is locked in by a peak indicating voltmeter to provide the oral and visual indication when the peak voltage appearing between contact 39a and 37a of the plug 36a exceeds a predetermined threshold magnitude. The peak indicating voltmeter has a characteristic so that its indication is essentially independent of the widths of the voltage pulses applied to it, and thus it provides a determination of the continuity characteristic of the potentiometer under test independent of the angular space occupied by the zone of discontinuity. The amplifier 13 which is connected to this portion of the potentiometer under test has an essentially infinite input impedance which does not influence the measurement, and hence only the total transient voltage developed between the actual point of contact of the slider of the potentiometer on the winding and the slider is observed. It has previously been indicated that the circuit has a characteristic that the zone of ambiguity about its threshold adjustment is a minimum. The circuit is further designed to re-set itself after each indication within approximately 0.5 second or less recovery time. The indication provided upon the occurrence of any transient voltage in excess of a predetermined amount in the potentiometer portion which is connected to the amplifier 13 produces an indication for approximately three seconds. This indication is provided by the neon lamp 107 and the audible signal from the loud speaker 19. Where 360° mechanical rotation potentiometers are to be tested which are completely encased so that the internal construction and operation cannot be observed during the test, the neon indicator lamp 25 would be extinguished when the intended electrical continuity of the winding is exceeded. The threshold resistance value of the circuit may be pre-set to any desired value between 10 ohms and 5,000 ohms by adjustment of the contact 47 on the variable resistor 46 of the amplifier 13. While for the purpose of simplicity in describing the present invention

reference has been had to the use of the circuit and apparatus for the purpose of testing potentiometers, it, of course, will be appreciated that the apparatus is capable of other uses. It will readily be appreciated that the potentiometer 12 under test shown in Figures 2a and 2b actually constitutes a Y-connected network. Hence any other Y-connected network could be substituted for the potentiometer 12 under test. Such an arrangement would therefore make it possible to test contacts such as those used in relays or mechanically operated switches. Thus it is possible to determine the noise introduction of contacts in any electrical circuit arrangements where the contacts are either electrically or mechanically actuated as a part of the operation sequence. It further will be appreciated that while the foregoing description has been directed to a go, no-go type of operation which defines the greatest utility in production testing operations, that the circuit and apparatus is not limited to such use. It previously has been indicated that an absolute measurement of the slider or contact resistance could be obtained by the use of a suitable calibration dial connected to the adjustable contact 47 of 35 the resistor 46 of the amplifier 13. From this it will be appreciated that further refinements or modifications might be made whereby a suitable attenuator or phase reversal mechanism might be introduced for balancing out the active noise components in a Y-connected network. It further will be appreciated that while in the particular embodiment referred to it has been stated that the sensitivity could be set within a range from 10 ohms to 5,000 ohms that suitable amplification might be provided to extend the range as low as 0.01 ohm. The system, therefore, is believed to be useful in locating the erratic operation in servo-mechanisms and analogue computers as well as other circuit devices wherein the reliability of contact might be the factor introducing the erratic operation or be the factor in reducing the over-all sensitivity of the system. While for the purpose of illustrating and describing the present invention certain specific components have been referred to, particularly in connection with the description of Figures 2a and 2b, it is to be understood that the invention is not to be limited thereby since such other components and such variations in the circuit arrangements are contemplated as may be commensurate with the spirit and scope of the invention set forth in the accompanying claims.

1 claim as my invention: 1. The method of determining the resistance value of one leg of a three leg resistor network independently of the values of resistance of the other two legs of said network comprising applying a constant current source to one terminal of said first leg and to another terminal of said network, and measuring the resistance between said terminal of said first leg and the remaining terminal of said network. 2. The method of determining the resistance value of one leg of a Y resistor network irrespective of the values of resistance of the other legs of said network comprising applying a constant current source between two terminals of said network including said first mentioned and applying a high impedance indicating circuit between the

13 remaining terminal of said network and the terminal adjacent said first leg. 3. The method of determining parasitic transient resistance of the contact arm with a resistor element of a potentiometer comprising applying a source of constant current to one terminal of said resistor element and said arm, and measuring the voltage across the contact arm and the other terminal of said resistor element. 4. The method of determining parasitic transient resistance of the contact arm with the resistor element of potentiometers comprising applying a source of potential between one terminal of said resistor element and said arm, maintaining constant the current through said arm, moving said arm across said resistor element, and producing an indication whenever the parasitic transient resistance exceeds a predetermined threshold value. 5. A system for determining the resistance value of one leg of a Y connected resistor network independently of the values of resistance of the other two legs of network comprising a source of constant current connected to one terminal of said first leg and another terminal of said network, a high impedance circuit connected between the terminal of said first leg and the remaining terminal of said network, and means for indicating the response of said high impedance network to the resistance of said first leg. 6. A system for determining the parasitic transient resistance of a potentiometer contact arm with the resistor element thereof independently of the movement of and position of said arm on said element comprising a source of constant current applied to said arm and one terminal of said

potentiometer, a high impedance circuit connected between said arm and the remaining terminal of said potentiometer, and means for indicating the response of said high impedance circuit to the resistance of said contact arm. 7. A system for testing potentiometers to determine whenever the parasitic transient resistance between the contact arm and the resistance element exceeds a predetermined value comprising a constant current source connected to the movable arm and one terminal of the resistance element, a voltage amplifier connected to said arm and the other terminal of the resistance element, a gate circuit controlled by said amplifier, a single shot multivibrator controlled by said gate circuit, and means controlled by said multivibrator for producing a visual signal and an audible signal whenever said predetermined value has been exceeded. 8. A system for testing potentiometers to determine whenever the parasitic transient resistance between the contact arm and the resistance element exceeds a predetermined value comprising a constant current source connected to the movable arm and one terminal of the resistance element, vacuum tube means including a one shot multivibrator, and means controlled by said multivibrator for producing a visual signal and an audible signal whenever said predetermined value has been exceeded irrespective of the transient characteristic of the parasitic resistance. 9. A system for testing potentiometers to determine whenever the parasitic transient resistance between the contact arm and the resistance element exceeds a predetermined value comprising a constant current source connected to the movable arm and one terminal of the resistance element, and vacuum tube means for producing a visual signal and an audible signal of known duration whenever said predetermined value has been exceeded irrespective of the transient characteristic of the parasitic resistance, said vacuum tube means being connected between the other terminal of the resistance element and said movable arm. 10. A system for testing potentiometers to determine whenever the parasitic transient resistance between the contact arm and the resistance element exceeds a predetermined value comprising a constant current source connected to the contact arm and one terminal of said resistance element, means connected to the other terminal of said resistance element and said contact arm including a gate circuit for determining the predetermined value of transient resistance, and means, responsive to said gate circuit for producing a signal of known duration independently of the transient characteristic of the parasitic resistance. 11. A system for testing potentiometers to determine whenever the parasitic transient resistance between the contact arm and the resistance element exceeds a predetermined value comprising a constant current source connected to the contact arm and one terminal of said resistance element, high impedance means connected to the other terminal of said resistance element and said contact arm including a gate circuit for determining the predetermined value of transient resistance, and means responsive to said gate circuit for producing a visual signal of known duration independently of the transient characteristic of the parasitic resistance. 12. A system for testing potentiometers to determine whenever the parasitic transient resistance between the contact arm and the resistance element exceeds a predetermined value comprising a constant current source connected to the contact arm and one terminal of said resistance element, means connected to the other terminal of said resistance element and said contact arm including a gate circuit for determining the predetermined value of transient resistance, and electronic means responsive to said gate circuit for producing an audible signal of known duration independently of the transient characteristic of the parasitic resistance. 13. A system for testing potentiometers comprising a source of potential, means for supplying a constant current from said source to the contact arm and one terminal of the resistance element of a potentiometer, a high impedance circuit connected to said arm and the other terminal of said potentiometer, a gate circuit controlled by said high impedance circuit, a one shot multivibrator controlled by said gate circuit, an audio oscillator biased to cut off controlled by said multivibrator, and a loud speaker energized by said oscillator. 14. A system for testing potentiometers comprising a source of constant current, means for connecting said source to the contact arm and one terminal of the resistance element of a potentiometer, a high impedance circuit connected to said arm and the other terminal of the resistance element of said potentiometer, a gate circuit controlled by said high impedance circuit, a one shot multivibrator controlled by said gate circuit, and a signal lamp energized in response to said multivibrator. 15. A system for testing potentiometers to determine whenever the equivalent parasitic transient resistance between the contact arm and

the resistance element exceeds 55 a predetermined value comprising a constant current source connected to the movable arm and one terminal of the resistance element, means connected to the movable arm and the other resistance terminal including a vacuum tube one shot multi-vibrator, and means connected to said multi-vibrator for producing a signal of predetermined magnitude whenever said predetermined value has been exceeded irrespective of the transient characteristic on the parasitic resistance, the total resistance of the potentiometer, linearity or conformity, total angle, 65 function, and resolution of the potentiometer. 16. The method of determining the equivalent noise resistance in a potentiometer comprising applying a source of constant current to one terminal of the resistor element and the contact arm, measuring the voltage across 70 said contact arm and the other terminal of said resistor element, thereafter changing the value of said constant current and again measuring the voltage to determine the active and passive components of said equivalent noise resistance. 7,5 17. The method of determining the resistance value of

one leg of a Y connected network comprising applying to two legs thereof successively constant currents of different values and successively measuring the potential appearing across the remaining leg and one of the first legs of said network. 18. The method of determining the resistance value of one leg of a Y connected network comprising applying to two legs thereof successively constant currents of different values, successively measuring the potential appearing across the remaining leg and one of the first legs of said network and comparing said measured potentials to determine the passive component of said resistance value. References Cited in the file of this patent 5 UNITED STATES PATENTS 988 .441 @Bumham ----- Apr. 4, 1911 2,424,146 Caldwell ----- July 15, 1947 2,453,462 Sellers ----- Nov. 9, 1948 10 2,651,021 Hays ----- Sept. 1, 1953 2,715,208 Hayes ----- Aug. 9, 1955

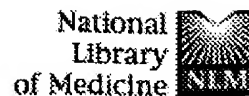
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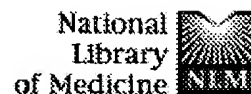
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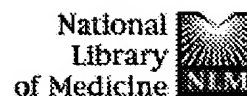
Normalization and subtraction: two approaches to facilitate gene discovery.

Bonaldo MF, Lennon G, Soares MB.

Department of Psychiatry, College of Physicians and Surgeons of Columbia University, New York, New York, USA.

Large-scale sequencing of cDNAs randomly picked from libraries has proven a very powerful approach to discover (putatively) expressed sequences that, in turn, once mapped, may greatly expedite the process involved in the identification and cloning of human disease genes. However, the integrity of the data and the pace at which novel sequences can be identified depends to a great extent on the cDNA libraries that are used. Because altogether, in a typical cell, the mRNAs of the prevalent and intermediate frequency classes comprise as much as 50-65% of the total mRNA mass, but represent no more than 1000-2000 different mRNAs, redundant identification of mRNAs of these two frequency classes is destined to become overwhelming relatively early in any such random gene discovery programs, thus seriously compromising their cost-effectiveness. With the goal of facilitating such efforts, previously we developed a method to construct directionally cloned normalized cDNA libraries and applied it to generate infant brain (INIB) and fetal liver/spleen (INFLS) libraries, from which a total of 45, and 86,088 expressed sequence tags, respectively, have been derived. While improving the representation of the longest cDNAs in our libraries, we developed three additional methods to normalize cDNA libraries and generated over 35 libraries, most of which have been contributed to our integrated Molecular Analysis of Genomes and Their Expression (IMAGE) Consortium and thus distributed widely and used for sequencing and mapping. In an attempt to facilitate the process of gene discovery further, we have also developed a subtractive hybridization approach designed specifically to eliminate (or reduce significantly the representation of) large pools of arrayed and (mostly) sequenced clones from normalized libraries yet to be (or just partly) surveyed. Here we present a detailed description and a comparative analysis of four methods that we developed and used to generate normalized cDNA libraries from human (15), mouse (3), rat (2) as well as the parasite *Schistosoma mansoni* (1). In addition, we describe the construction and preliminary characterization of a subtracted liver/spleen library (INFLS-SI) that resulted from the elimination (or reduction of representation) of 5000 INFLS-IMAGE clones from the INFLS library.

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
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
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


















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
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
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
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
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
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
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
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


















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
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
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
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
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
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
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
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








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




















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
















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


















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
















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
















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
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
















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
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PMID: 11478420 [PubMed - indexed for MEDLINE]




















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




















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






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
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


















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
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
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
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
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
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
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CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

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=> S Nogo A
14 FILES SEARCHED...
25 FILES SEARCHED...
43 FILES SEARCHED...
60 FILES SEARCHED...
L1      1024 NOGO A
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L2      510 DUP REM L1 (514 DUPLICATES REMOVED)
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=> S L2 AND PY<=1998
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7 FILES SEARCHED...
9 FILES SEARCHED...
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'1998' NOT A VALID FIELD CODE
32 FILES SEARCHED...
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'1998' NOT A VALID FIELD CODE
43 FILES SEARCHED...
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'1998' NOT A VALID FIELD CODE
58 FILES SEARCHED...
'1998' NOT A VALID FIELD CODE
63 FILES SEARCHED...
69 FILES SEARCHED...
L3      27 L2 AND PY<=1998
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=> D L3 1-27
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L3  ANSWER 1 OF 27  IFIPAT  COPYRIGHT 2004 IFI on STN
AN   03512021  IFIPAT;IFIUDB;IFICDB
TI   TOPOGRAPHY PROCESSOR SYSTEM
IN   Downs Roger Colston (GB)
PA   Unassigned Or Assigned To Individual (68000)
PI   US 6233361      B1  20010515
    WO 9506283      19950302
AI   US 1996-601048  19960223
    WO 1994-GB1845  19940823
    19960223  PCT 371 date
    19960223  PCT 102(e) date
PRAI GB 1993-17573  19930824
    GB 1993-17600  19930824
    GB 1993-17601  19930824
    GB 1993-17602  19930824
    GB 1993-18903  19930913
    GB 1993-23779  19931118
    GB 1993-23780  19931118
    GB 1993-23781  19931118
    GB 1993-23782  19931118
    GB 1993-23783  19931118
    GB 1994-4654   19940310
FI   US 6233361      20010515
DT   Utility
FS   ELECTRICAL
    GRANTED
CLMN 60
GI   38 Drawing Sheet(s), 38 Figure(s).
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L3  ANSWER 2 OF 27  IFIPAT  COPYRIGHT 2004 IFI on STN
AN   02645512  IFIPAT;IFIUDB;IFICDB
TI   AUTOMATIC EQUAL-PHASE SYNCHRONIZER FOR A VARYING NUMBER OF SYNCHRONIZED
    UNITS
```

IN Laughton William J; Van Duyne Jeffrey L
PA Martin Marietta Corp (52640)
PI US 5451858 A 19950919 (CITED IN 004 LATER PATENTS)
AI US 1993-100399 19930802
FI US 5451858 19950919
DT Utility
FS ELECTRICAL
GRANTED
MRN 006649 MFN: 0537
CLMN 8
GI 4 Drawing Sheet(s), 9 Figure(s).

L3 ANSWER 3 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 02639720 IFIPAT;IFIUDB;IFICDB
TI SPUD FINGER GAUGE
IN Russell Harry I; Sridhar Bettadapur N
PA General Electric Co (33808)
PI US 5446774 A 19950829 (CITED IN 002 LATER PATENTS)
AI US 1994-196736 19940215
FI US 5446774 19950829
DT Utility
FS ELECTRICAL
GRANTED
MRN 006882 MFN: 0816
CLMN 9
GI 5 Drawing Sheet(s), 6 Figure(s).

L3 ANSWER 4 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 02374624 IFIPAT;IFIUDB;IFICDB
TI MICRO-CODED BUILT-IN SELF-TEST APPARATUS FOR A MEMORY ARRAY
IN Popyack Leonard J Jr
PA U S of America Air Force Secretary of (86520)
PI US 5224101 A 19930629 (CITED IN 031 LATER PATENTS)
AI US 1990-523968 19900516
FI US 5224101 19930629
DT Utility
FS ELECTRICAL
GRANTED
MRN 005584 MFN: 0423
CLMN 9
GI 3 Drawing Sheet(s), 3 Figure(s).

L3 ANSWER 5 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 01896014 IFIPAT;IFIUDB;IFICDB
TI APPARATUS FOR AUTOMATICALLY SELECTING ACCEPTABLE OR UNACCEPTABLE HOLLOW
CYLINDRICAL PRODUCTS SUCH AS BUSHES
IN MORI SANAE (JP)
PA DAIDO METAL CO LTD JP (21945)
PI US 4785941 A 19881122
AI US 1986-843647 19860325
PRAI JP 1985-81584 19850417
FI US 4785941 19881122
DT Utility
FS MECHANICAL
GRANTED
MRN 004533 MFN: 0583
CLMN 20
GI 10 Drawing Sheet(s), 15 Figure(s).

L3 ANSWER 6 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 01867435 IFIPAT;IFIUDB;IFICDB
TI PORTABLE TESTER FOR MEASURING SLIP RESISTANCE
IN BRUNGRABER ROBERT J
PA UNASSIGNED OR ASSIGNED TO INDIVIDUAL (68000)
PI US 4759209 A 19880726 (CITED IN 001 LATER PATENTS)
AI US 1987-60302 19870610
FI US 4759209 19880726
DT Utility
FS MECHANICAL
GRANTED
CLMN 18
GI 4 Drawing Sheet(s), 10 Figure(s).

L3 ANSWER 7 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 01751478 IFIPAT;IFIUDB;IFICDB
TI DUMP AND KILL VALVE FOR A SIDEPOCKET MANDREL

IN JOHNSTON RUSSELL A; MAY DWAYNE E
PA CAMCO INC (13937)
PI US 4651822 A 19870324 (CITED IN 002 LATER PATENTS)
AI US 1986-855194 19860423
FI US 4651822 19870324
DT Utility; REASSIGNED; EXPIRED
FS MECHANICAL
GRANTED
MRN 004567 MFN: 0188
005366 0664
CLMN 9
GI 3 Drawing Sheet(s), 6 Figure(s).

L3 ANSWER 8 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 01667323 IFIPAT;IFIUDB;IFICDB
TI DOWNHOLE LOCKING APPARATUS
IN HOPMANN MARK E; KRAUSE WILLIAM F JR
PA BAKER INTERNATIONAL CORP (7216)
PI US 4583591 A 19860422 (CITED IN 006 LATER PATENTS)
AI US 1984-688069 19841231
RLI US 1983-468421 19830222 CONTINUATION 4510995
FI US 4583591 19860422
US 4510995
DT Utility
FS MECHANICAL
GRANTED
CLMN 6
GI 5 Drawing Sheet(s), 9 Figure(s).

L3 ANSWER 9 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 01653533 IFIPAT;IFIUDB;IFICDB
TI RELEASABLE LATCH FOR DOWNHOLE WELL TOOLS
IN SETTERBERG JOHN R JR
PA OTIS ENGINEERING CORP (62584)
PI US 4570707 A 19860218 (CITED IN 006 LATER PATENTS)
AI US 1984-665754 19841029
RLI US 1984-588147 19840309 CONTINUATION-IN-PART ABANDONED
FI US 4570707 19860218
DT Utility; EXPIRED
FS MECHANICAL
GRANTED
MRN 004352 MFN: 0725
CLMN 20
GI 17 Drawing Sheet(s), 26 Figure(s).

L3 ANSWER 10 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 01597958 IFIPAT;IFIUDB;IFICDB
TI LSI SELF-TEST METHOD
IN KOMONYTSKY DONALD
PA STORAGE TECHNOLOGY CORP (4388)
PI US 4519078 A 19850521 (CITED IN 068 LATER PATENTS)
AI US 1982-426451 19820929
FI US 4519078 19850521
DT Utility
FS ELECTRICAL
GRANTED
MRN 004065 MFN: 0884
CLMN 15
GI 7 Drawing Sheet(s), 13 Figure(s).

L3 ANSWER 11 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 01029312 IFIPAT;IFIUDB;IFICDB
TI HIGH SECURITY LOCK
IN BARRY JOHN P; DETTLING JOSEPH R
PA UNITED TECHNOLOGIES CORP (87638)
PI US 3979052 A 19760907
AI US 1974-467420 19740506
RLI US 1972-248196 19720427 CONTINUATION ABANDONED
US 1974-464013 19740425 DIVISION 3873892
FI US 3979052 19760907
US 3873892
DT Utility
FS MECHANICAL
GRANTED
CLMN 4
GI 8 Drawing Sheet(s), 21 Figure(s).

L3 ANSWER 12 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 00923383 IFIPAT;IFIUDB;IFICDB
TI HIGH SECURITY LOCK
IN BARRY JOHN P; DETTLING JOSEPH R
PA UNITED TECHNOLOGIES CORP (87638)
PI US 3873892 A 19750325 (CITED IN 008 LATER PATENTS)
AI US 1974-464013 19740425
RLI US 1972-248196 19720427 CONTINUATION ABANDONED
US 1969-881094 19691201 CONTINUATION-IN-PART ABANDONED
FI US 3873892 19750325
DT Utility
FS ELECTRICAL
GRANTED
CLMN 35
GI 8 Drawing Sheet(s), 21 Figure(s).

L3 ANSWER 13 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 00725471 IFIPAT;IFIUDB;IFICDB
TI REVERSIBLE ARMING METHOD AND APPARATUS FOR EMPLACING A LOCKING DEVICE IN
TUBING
IN TAMPLEN JACK W
PA JACK W TAMPLEN
PI US 3677346 A 19720718 (CITED IN 007 LATER PATENTS)
AI US 1970-99752 19701221
FI US 3677346 19720718
DT Utility
FS MECHANICAL
GRANTED
CLMN 50
GI 5 Drawing Sheet(s), 16 Figure(s).

L3 ANSWER 14 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 00718891 IFIPAT;IFIUDB;IFICDB
TI LOCKING DEVICE AND METHOD AND APPARATUS FOR EMPLACING SAME
IN TAMPLEN JACK W
PA JACK W TAMPLEN
PI US 3670821 A 19720620 (CITED IN 010 LATER PATENTS)
AI US 1970-99762 19701221
FI US 3670821 19720620
DT Utility
FS MECHANICAL
GRANTED
CLMN 27
GI 4 Drawing Sheet(s), 20 Figure(s).

L3 ANSWER 15 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 00701012 IFIPAT;IFIUDB;IFICDB
TI CURRENT MONITOR FOR THRESHOLD DETECTION
IN GULLION BILLY B
PA U S OF AMERICA NAVY SECRETARY OF (86584)
PI US 3653020 A 19720328
AI US 1970-61525 19700806
FI US 3653020 19720328
DT Utility
FS ELECTRICAL
GRANTED
CLMN 9
GI 2 Drawing Sheet(s), 3 Figure(s).

L3 ANSWER 16 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 00662213 IFIPAT;IFIUDB;IFICDB
TI GO; NO-GO TIMES CIRCUIT USING A TUNNEL DIODE TO SAMPLE A TEST WAVEFORM
IN GRUBEL STANLEY J; STIRLING HUGH R
PA INTERNATIONAL BUSINESS MACHINES CORP (42640)
PI US 3614609 A 19711019 (CITED IN 003 LATER PATENTS)
AI US 1970-27341 19700410
FI US 3614609 19711019
DT Utility
FS ELECTRICAL
GRANTED
CLMN 3
GI 1 Drawing Sheet(s), 2 Figure(s).

L3 ANSWER 17 OF 27 IFIPAT COPYRIGHT 2004 IFI on STN
AN 00283992 IFIPAT;IFIUDB;IFICDB

TI DIGITAL COMPARATOR
IN WOODWARD MORTON P JR
PA GENERAL ELECTRIC CO (33808)
PI US 3289159 A 19661129 (CITED IN 005 LATER PATENTS)
FI US 3289159 19661129
DT Utility
FS ELECTRICAL
GRANTED

L3 ANSWER 18 OF 27 MEDLINE on STN
AN 64145252 MEDLINE
DN PubMed ID: 14187229
TI [COMPARATIVE EVALUATION OF THE EFFECTIVENESS OF BACTERIA-TRAPPING DEVICES
IN THE DETERMINATION OF BACTERIAL CONCENTRATIONS OF AEROSOLS].
SRVAVNITEL 'NAIA OTSENKA 'EFFEKTIVNOSTI BAKTERIOULAVLIVATELE I PRI
OPREDELENII KONTSENTRATSII BAKTERIAL' ****NOGO**** ***A*** 'EROSOLIA.
AU KIKTENKO V S; KUDRIAVTSEV S I; PUSHCHIN N I
SO Gigiena i sanitariia, *** (1963 Oct) *** 28 45-8.
Journal code: 0412700. ISSN: 0016-9900.
CY RUSSIA: Russian Federation
DT Journal; Article; (JOURNAL ARTICLE)
LA Russian
FS OLDMEDLINE
EM 199612
ED Entered STN: 19990716
Last Updated on STN: 19990716
Entered Medline: 19961201

L3 ANSWER 19 OF 27 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1997-262859 [24] WPIDS
DNN N1997-217203
TI waveform measuring device having GO/ ****NOGO**** judging function for
e.g. digital oscilloscope - has information file in which various
information written in third memory during ****NOGO**** judging are
stored.
DC S01
PA (YOKG) YOKOGAWA DENKI KK
CYC 1
PI JP 09089935 A 19970404 (199724)* 5 G01R013-20 <--
JP 2985748 B2 19991206 (200003) 4 G01R013-20
ADT JP 09089935 A JP 1995-247388 19950926; JP 2985748 B2 JP 1995-247388
19950926
FDT JP 2985748 B2 Previous Publ. JP 09089935
PRAI JP 1995-247388 19950926
IC ICM G01R013-20

L3 ANSWER 20 OF 27 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1995-100616 [14] WPIDS
CR 1995-100617 [12]; 1995-106969 [14]; 1995-157403 [21]
DNN N1995-079562
TI Graphic macro diagnostic topography processor system - has transform
processor to allow closed loop topography processor system simulation and
performance monitoring.
DC S05 T01 T04 W04
IN DOWNS, R C
PA (DOWN-I) DOWNS R C
CYC 2
PI GB 2281464 A 19950301 (199514)* 46 G01S007-497 <--
AU 9474654 A 19950321 (199526) G06F011-22 <--
GB 2295741 A 19960605 (199626) 1 G06F011-22 <--
ADT GB 2281464 A GB 1994-4654 19940310; AU 9474654 A AU 1994-74654 19940823;
GB 2295741 A WO 1994-GB1845 19940823, GB 1996-1754 19960129
FDT AU 9474654 A Based on WO 9506283; GB 2295741 A Based on WO 9506283
PRAI GB 1993-23783 19931118; GB 1993-17601 19930824;
GB 1993-17573 19930824; GB 1993-17600 19930824;
GB 1993-17602 19930824; GB 1993-18903 19930913;
GB 1993-23779 19931118; GB 1993-23780 19931118;
GB 1993-23781 19931118; GB 1993-23782 19931118;
GB 1994-4654 19940310
IC ICM G01S007-497; G06F011-22

L3 ANSWER 21 OF 27 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1995-092469 [13] WPIDS
DNN N1995-073096 DNC C1995-041862
TI Coating compsn. for photographic material - contains soft polymer
particles and surfactants providing reduced flocculation of components and

reduced pressure sensitivity.

DC A25 A89 E13 G06 P83
IN BAGCHI, P; KESTNER, M M
PA (EAST) EASTMAN KODAK CO
CYC 10
PI EP 640871 A1 19950301 (199513)* EN 28 G03C001-76 <--
R: BE CH DE FR GB IT LI NL
US 5393650 A 19950228 (199514) 13 G03C001-76 <--
US 5426020 A 19950620 (199530) 14 G03C001-77 <--
JP 07152103 A 19950616 (199533) 18 G03C001-043 <--
EP 640871 B1 20001011 (200052) EN G03C001-76
R: GB

ADT EP 640871 A1 EP 1994-202450 19940826; US 5393650 A Div ex US 1993-114535
19930831, US 1994-265997 19940627; US 5426020 A US 1993-114535 19930831;
JP 07152103 A JP 1994-203257 19940829; EP 640871 B1 EP 1994-202450
19940826

PRAI US 1993-114535 19930831
IC ICM G03C001-043; G03C001-76; G03C001-77
ICS G03C001-04; G03C001-38

L3 ANSWER 22 OF 27 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1990-118219 [16] WPIDS
DNN N1990-091660
TI Gauging and measuring tool - checks shaft alignment in machine assembly of
driving and driven shafts with mechanical coupling.
DC S02
IN CAMERON, W
PA (FLEX-N) FLEXIBOX LTD
CYC 1
PI GB 2223848 A 19900418 (199016)* <--
GB 2223848 B 19920401 (199214) <--
ADT GB 2223848 A GB 1988-22449 19880926; GB 2223848 B GB 1988-22499 19880926
PRAI GB 1988-22449 19880926; GB 1988-22499 19880926
IC G01B003-30

L3 ANSWER 23 OF 27 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1986-300278 [46] WPIDS
DNN N1986-224444
TI Inner and outer diameter checking device for cylindrical product - applies
each product to size gauges with constant force and velocity for tolerance
determin..
DC P43 S02
IN MORI, S
PA (DAME) DAIDO METAL CO LTD
CYC 2
PI GB 2174810 A 19861112 (198646)* 15 <--
GB 2174810 B 19881130 (198848) <--
US 4785941 A 19881122 (198849) <--
ADT GB 2174810 A GB 1986-9253 19860416; US 4785941 A US 1986-843647 19860325
PRAI JP 1985-81584 19850417
IC B07C005-02; G01B005-08

L3 ANSWER 24 OF 27 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1981-K5061D [41] WPIDS
TI Measuring electrical values of discrete semiconductor components - by
varying reference value until minimal discrepancy is obtained.
DC S01 U11
IN MALIK, S; PALFALVI, G; SZEKELY, G; SZTANKO, J; VASENSZKY, F
PA (EGYI) EGYESUELT IZZOLAMPA VILLAMOS
CYC 2
PI DE 3040275 A 19811001 (198141)* 14 <--
HU 22044 T 19820329 (198217) <--
PRAI HU 1980-535 19800307
IC G01R017-02; G01R031-26

L3 ANSWER 25 OF 27 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1977-J3487Y [41] WPIDS
TI Luminescent semiconductor module chain - has GO- ****NOGO***
characteristics and has parallel train of diodes with same polarity in
each channel.
DC P85 S02 U12 U13 X25 X26
PA (LICN) LICENTIA PATENT-VERW GMBH
CYC 3
PI DE 2613647 A 19771006 (197741)* <--
FR 2346934 A 19771202 (197804) <--
US 4183021 A 19800108 (198003) <--

DE 2613647 B 19810122 (198105) <--
PRAI DE 1976-2613647 19760331
IC G01D007-00; G09F013-22; H01L027-15; H01L033-00; H05B037-02

L3 ANSWER 26 OF 27 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1977-C0056Y [10] WPIDS
TI Printing unit with memory of coded characters - has circuits for selective
bit motations and go- ***nogo*** control modules.
DC P75 T04
PA (IBMC) IBM CORP
CYC 1
PI NL 152383 B 19770215 (197710)* <--
PRAI US 1964-422761 19641231
IC B41J001-20; G06K015-08

L3 ANSWER 27 OF 27 WPIDS COPYRIGHT 2004 THE THOMSON CORP on STN
AN 1976-G5923X [30] WPIDS
TI Respirator mal function alarm means - gives alarm in case of disconnection
of pipe to respirator.
DC P33 P34 Q57 Q69 W05
PA (UCCU-N) UCC UNION CHIM CONT
CYC 7
PI BE 837388 A 19760708 (197630)* <--
DE 2558853 A 19760722 (197631) <--
NL 7600404 A 19760720 (197632) <--
FR 2298147 A 19760917 (197647) <--
US 4067329 A 19780110 (197804) <--
CH 607727 A 19781013 (197848) <--
IT 1052770 B 19810720 (198145) <--
PRAI FR 1975-1398 19750117
IC A61H031-00; A61M016-00; F15B020-00; F17D005-02; G08B021-00
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